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Prepared for:  
UTC Aerospace Systems  
Rockford, IL

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June 13, 2017

# First Quarter 2017 GMZ Monitoring and System Performance Report

UTC Aerospace Systems Plants 1/2 Facility  
Area 9/10 Remedial Action  
Southeast Rockford Groundwater Contamination  
Superfund Site  
2421 11<sup>th</sup> Street  
Rockford, IL 61104  
ILD 981000417



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June 13, 2017

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Mr. Brian Conrath  
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**Subject:** First Quarter 2017 GMZ Monitoring and System Performance Report  
UTC Aerospace Systems Plants 1/2 Facility  
Area 9/10 Remedial Action  
Southeast Rockford Groundwater Contamination Superfund Site  
2421 11<sup>th</sup> Street  
Rockford, Illinois 61104  
ILD981000417  
AECOM Project No. 60532451

Dear Ms. Kirchner and Mr. Conrath:

This Quarterly Groundwater Management Zone (GMZ) Monitoring and System Performance Report has been prepared by AECOM Technical Services Inc. (AECOM) on behalf of UTC Aerospace Systems (UTAS, fka Hamilton Sundstrand Corporation or HSC). In accordance with the approved March 2007 Operation, Maintenance, and Monitoring Plan (OM&M Plan) and the United States Environmental Protection Agency (EPA) letter dated April 15, 2011 providing approval for combining project reporting documents, this report contains a summary of the following: 1) GMZ groundwater monitoring data; 2) the Phase 1 and Phase 2 air sparge/soil vapor extraction (AS/SVE) system performance data; 3) the Phase 1 and Phase 2 AS/SVE system process air analytical data; 4) GMZ wells that contain contaminants of concern (COCs) above Preliminary Remediation Goals (PRGs); and 5) Quarterly Progress Report for Second Quarter 2017.

As approved in the April 15, 2011 letter from Timothy Drexler, interpretation of collected groundwater quality and system performance data will be included in the Annual GMZ Monitoring and System Performance Report submitted in March of the subsequent year. This quarterly report provides the current environmental data including: tables and figures summarizing the results of first quarter 2017 GMZ monitoring and AS/SVE system performance data, supporting field data sheets and laboratory analytical reports, and the Quarterly Progress Report covering the period from March 1, 2017, to May 31, 2017.

The objective of AS/SVE system operation is to treat leachate-impacted groundwater at the HSC Plants 1/2 (Site) property. The implemented remedy was specifically targeted to address an area of the Site where COCs were originally present in leachate/groundwater at concentrations that were two or more orders of magnitude greater than their PRGs. Though the treatment area was not fully defined when the 2002 Record of Decision (ROD) for Operable Unit 3 (OU3) was issued, the entire Site was identified/defined in the ROD as a "source location" within the larger established "Source Area 9/10" (Area 9/10) based on data collected prior to the ROD<sup>1</sup>. The ROD further required that the Site remedy include the establishment of a GMZ for this "source location" (the Site) whose volume was defined by the Site property boundaries and a vertical limit of 45 feet below ground surface. Two Site GMZs, GMZ 1 (Site property north of railroad tracks) and GMZ 2 (Site property south of railroad tracks), were approved by the Illinois EPA in 2008. Monitoring wells within the Site GMZs are routinely sampled, and the groundwater analytical results are compared to OU3 PRGs to evaluate the effectiveness of the remedy.

During the first quarter 2017 reporting period, the following five GMZ well locations along the Site boundary contained COCs at concentrations above PRGs:

GMZ Monitoring Well ID	COC <sup>[1]</sup> Concentrations > PRG (Increase (+) or Decrease (-) from Previous Quarter)
GMZ01	PCE (+)
SMW04	PCE (-), Vinyl chloride (+)
SMW08	PCE (-)
SMW19	TCE (-)
PMW01	PCE (+)
PMW02	PCE (-), Vinyl chloride (+)

<sup>[1]</sup> Trichloroethene (TCE), Tetrachloroethene (PCE)

The above-noted decreases/increases in concentrations represent a relative change in COC concentrations (above the PRG) between the two most recent quarters of data. Such changes should not be viewed as an indication of a trend without further statistical evaluation.

While PRGs are used to assess on-going remedy effectiveness at the Site, the continued operation of the AS/SVE remedy will be dependent on the attainment of Alternate Cleanup Levels (ACLs) at the downgradient Site GMZ boundary. COC ACLs have not yet been established/approved for the Site, but the ACLs will represent the maximum allowable concentration at the Site boundary that will not result in a COC exceedance of a PRG at the Area 9/10 boundary downgradient of the Site.

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<sup>1</sup> See EPA Superfund Record of Decision Southeast Rockford Ground Water Contamination, 2002. EPA/ROD/R05-02/077 2002.

Achieving ACLs at the downgradient Site boundary will demonstrate that the Site is protective of human or environmental receptors at the downgradient Area 9/10 boundary, and that continued active remediation is no longer warranted. The downgradient Area 9/10 boundary is located at Harrison Avenue to the south and 6<sup>th</sup> Street to the west.

The formulation of ACLs is consistent with the attainment of the OU3 ROD Remedial Action Objective (RAO) for groundwater specified in the ROD<sup>2</sup> and the objectives analysis/Remedial Action Process Flow Diagram (RAPFD) developed and approved for use by the EPA and Illinois EPA at the Site. The RAPFD and the conditions for the performance of an objectives analysis and use of ACLs at the Site are provided in the Statement of Work attached to the HSC facility Consent Decree<sup>3</sup> and included in subsequent approved Remedial Action Work Plan.

Please contact either of the undersigned with any questions you may have on the information provided.

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<sup>2</sup> The OU3 ROD RAO for groundwater media is to: "Prevent the further migration of contamination from the source area that would result in degradation of site-wide groundwater or surface water to levels in excess of state or federal standards, or that pose a threat to human health or the environment."

<sup>3</sup> See the Statement of Work in Appendix C of the Consent Decree between Hamilton Sundstrand Corporation and the United States Environmental Protection Agency (Civil Action Number 08 C 50129), Section II.D.2, *Implementation of Remedial Action and Attainment of Performance Standards* (pages 9 and 10).

**Attachments:****Tables**

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**Appendices**

- Appendix A First Quarter 2017 GMZ and Performance Monitoring Well Analytical Data  
Appendix B First Quarter 2017 Effluent Air Laboratory Analytical Reports  
Appendix C First Quarter 2017 Phase 1/Phase 2 AS/SVE System Operations Data Sheets  
Appendix D First Quarter 2017 Groundwater Sampling Data Sheets  
Appendix E Second Quarter 2017 Progress Report

## **Tables**

**Table 1**  
**Second Quarter 2016 to First Quarter 2017 Groundwater Elevations**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

Well ID	Top of Casing Elevation (ft)	Depth to Groundwater (ft BTOC)	Groundwater Elevation (ft AMSL)						
				5/16/2016	8/2/2016	12/5/2016			
MW07FGA	727.49	27.53	699.96	27.54	699.95	28.01	699.48	28.11	699.38
MW203	728.58	28.20	700.38	28.31	700.27	28.77	699.81	28.92	699.66
SMW01	729.71	30.25	699.46	30.40	699.31	30.81	698.90	30.86	698.85
SMW02	726.77	26.72	700.05	26.87	699.90	27.30	699.47	27.41	699.36
SMW04	728.51	29.46	699.05	29.60	698.91	29.98	698.53	30.05	698.46
SMW08	728.81	29.65	699.16	29.76	699.05	30.20	698.61	30.28	698.53
SMW19	728.49	28.40	700.09	28.53	699.96	28.96	699.53	29.07	699.42
SMW20	727.69	28.60	699.09	28.73	698.96	29.12	698.57	29.18	698.51
SMW21	727.25	28.08	699.17	28.19	699.06	28.56	698.69	28.68	698.57
GMZ01	731.41	32.23	699.18	32.36	699.05	32.71	698.70	32.82	698.59
GMZ02	728.76	29.80	698.96	29.89	698.87	30.28	698.48	30.39	698.37
GMZ03	728.22	29.19	699.03	29.31	698.91	29.69	698.53	29.78	698.44
GMZ04	726.84	27.47	699.37	27.59	699.25	28.00	698.84	28.07	698.77
BGW01	728.19	28.28	699.91	28.41	699.78	28.85	699.34	28.91	699.28
BGW02	728.81	28.75	700.06	28.77	700.04	29.28	699.53	29.38	699.43
BGW03	728.96	28.79	700.17	28.92	700.04	29.35	699.61	29.44	699.52
RAMW01	728.91	29.81	699.10	29.93	698.98	30.35	698.56	30.39	698.52
RAMW02	728.90	29.67	699.23	29.80	699.10	30.22	698.68	30.27	698.63
RAMW03	728.71	29.49	699.22	29.61	699.10	30.02	698.69	30.08	698.63
RAMW04	728.80	29.33	699.47	29.45	699.35	29.86	698.94	29.93	698.87
RAMW05	727.65	28.21	699.44	28.34	699.31	28.76	698.89	28.82	698.83
RAMW06	727.64	28.24	699.40	28.37	699.27	28.79	698.85	28.85	698.79
RAMW07	732.20	32.70	699.50	32.86	699.34	33.28	698.92	33.34	698.86
RAMW08	728.45	28.84	699.61	28.97	699.48	29.40	699.05	29.48	698.97
PMW01	728.88	29.91	698.97	30.04	698.84	30.43	698.45	30.49	698.39
PMW02	728.88	29.88	699.00	30.02	698.86	30.42	698.46	30.47	698.41
Ave. GW Elev. (ft AMSL)			699.46		699.34		698.93		698.85

**Notes:**

NM = Not monitored

ft = feet

ft BTOC = feet below top of casing

ft AMSL = feet above mean sea level

All site well top of casing elevations re-surveyed on May 24, 2011.

RAMW04 riser was lowered due to ice damage that occurred during the 2013 winter. Well was resurveyed on July 1, 2013.

**Table 2**  
**Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - GMZ Wells**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) <sup>A</sup>				0.005 <sub>c</sub>	0.005 <sub>c</sub>	0.007 <sub>b,c</sub>	0.7 <sup>A</sup>	0.005 <sub>c</sub>	0.07 <sub>c</sub>	0.1 <sub>c</sub>	0.2 <sub>b,c</sub>	0.005 <sub>c</sub>	0.7 <sub>c</sub>	0.005 <sub>c</sub>	1.0 <sub>c</sub>	0.002 <sub>c</sub>
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
GMZ01	HS SER-GMZ01-051616	16-May-16		0.0023	0.0020 U	0.00080 J	0.0123	0.0010 U	0.0034	0.00053 J	0.0081	0.0010 U	0.0010 U	0.0424 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-GMZ01-080216	2-Aug-16		0.0034	0.0020 U	0.00093 J	0.0114	0.0010 U	0.0039	0.00040 J	0.0136	0.0010 U	0.0010 U	0.0716 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-GMZ01-120616	6-Dec-16		0.0026	0.0020 U	0.0011	0.0093	0.0010 U	0.0038	0.0010 U	0.0073	0.0010 U	0.0010 U	0.0207 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-GMZ01-020617	6-Feb-17		0.0029	0.0020 U	0.00047 J	0.0074	0.0010 U	0.0022	0.0010 U	0.0083	0.0010 U	0.0010 U	0.0290 <sup>A</sup>	0.0010 U	0.0010 U
GMZ02	HS SER-GMZ02-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.0015	0.0010 U	0.00042 J	0.0010 U	0.0026	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U
	HS SER-GMZ02-080316	3-Aug-16		0.00032 J	0.0020 U	0.0010 U	0.0013	0.0010 U	0.00062 J	0.0010 U	0.0019	0.0010 U	0.0010 U	0.00046 J	0.0010 U	0.0010 U
	HS SER-GMZ02-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00081 J	0.0010 U	0.00046 J	0.0010 U	0.0016	0.0010 U	0.0010 U	0.00057 J	0.0010 U	0.0010 U
	HS SER-GMZ02-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00067 J	0.0010 U	0.0010 U	0.00072 J	0.0010 U	0.0010 U	0.0010 U	0.00031 J	0.0010 U	0.0010 U
GMZ03	HS SER-GMZ03-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.00077 J	0.0010 U	0.00048 J	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-051816	18-May-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00076 J	0.0010 U	0.00041 J	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-080316	3-Aug-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00024 J	0.0010 U	0.0010 U	0.0010 U	0.00057 J	0.0010 U	0.0010 U
	HS SER-DUP01-120716	7-Dec-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ03-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00046 J	0.0010 U	0.00031 J	0.0010 U	0.00060 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-DUP01-020817	8-Feb-17	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00049 J	0.0010 U	0.00033 J	0.0010 U	0.00064 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
GMZ04	HS SER-GMZ04-051716	17-May-16		0.0010 U	0.0020 U	0.0067	0.0099	0.0010 U	0.0365	0.0010 U	0.21 <sup>A</sup>	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-080416	4-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0022	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0024	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-GMZ04-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00027 J	0.0010 U	0.00046 J	0.0010 U	0.0028	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
MW07FGA	HS SER-MW07FGA-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0000	0.0010 U	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0010 U	0.0010 J	0.0010 U	0.0010 U
	HS SER-MW07FGA-080216	2-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0000	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-MW07FGA-120616	6-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0015	0.0010 U	0.0010 U	0.0010 U	0.0011	0.0010 U	0.0010 U
	HS SER-MW07FGA-020717	7-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0023	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
MW203	HS SER-MW203-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0046 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-MW203-080216	2-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0036 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-MW203-120616	6-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0057 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-MW203-020717	7-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0037 <sup>A</sup>	0.0010 U	0.0010 U
SMW01	HS SER-SMW01-051616	16-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0014	0.0010 U	0.0010 U	0.0025 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-SMW01-080216	2-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0012	0.0010 U	0.0010 U	0.0010 U	0.0019 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-SMW01-120616	6-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0011	0.0010 U	0.001				

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**Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - GMZ Wells**  
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				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) <sup>A</sup>				0.005 <sup>c</sup>	0.005 <sup>c</sup>	0.007 <sup>b,c</sup>	0.7 <sup>a</sup>	0.005 <sup>c</sup>	0.07 <sup>c</sup>	0.1 <sup>c</sup>	0.2 <sup>b,c</sup>	0.005 <sup>c</sup>	0.7 <sup>c</sup>	0.005 <sup>c</sup>	1.0 <sup>c</sup>	0.002 <sup>c</sup>
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
SMW08	HS SER-SMW08-051616	16-May-16		0.0025	0.0020 U	0.00067 J	0.0065	0.0010 U	0.0074	0.0010 U	0.0121	0.0010 U	0.0010 U	0.0371 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-SMW08-080216	2-Aug-16		0.0016	0.0020 U	0.00079 J	0.0083	0.0010 U	0.0032	0.0010 U	0.0089	0.0010 U	0.0010 U	0.0406 <sup>A</sup>	0.0010	0.0010 U
	HS SER-SMW08-120616	6-Dec-16		0.0062 <sup>A</sup>	0.0020 U	0.00075 J	0.0060	0.0010 U	0.0020	0.0010 U	0.0185	0.0010 U	0.0010 U	0.0808 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-SMW08-020617	6-Feb-17		0.0018	0.0020 U	0.00033 J	0.0063	0.0010 U	0.0020	0.0010 U	0.0093	0.0010 U	0.0010 U	0.0200 <sup>A</sup>	0.0010 U	0.0010 U
SMW19	HS SER-SMW19-051716	17-May-16		0.0172 <sup>A</sup>	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00040 J	0.0010 U	0.00025 J	0.0010 U	0.0010 U	0.00089 J	0.0010 U	0.0010 U
	HS SER-SMW19-080416	4-Aug-16		0.0126 <sup>A</sup>	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00058 J	0.0010 U	0.00024 J	0.0010 U	0.0010 U	0.00075 J	0.0010 U	0.0010 U
	HS SER-SMW19-120816	8-Dec-16		0.0159 <sup>A</sup>	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.00029 J	0.0010 U	0.0010 U	0.00090 J	0.0010 U	0.0010 U
	HS SER-SMW19-020717	7-Feb-17		0.0144 <sup>A</sup>	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00076 J	0.0010 U	0.00044 J	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U
SMW20	HS SER-SMW20-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.00023 J	0.0010 U	0.0004 J	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW20-020817	8-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
SMW21	HS SER-SMW21-051816	18-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00059 J	0.0010 U	0.0052	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00059 J	0.0010 U	0.0034	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.00069 J	0.0010 U	0.0021	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-SMW21-020717	7-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00022 J	0.0010 U	0.00053 J	0.0010 U	0.0043	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
PMW01	HS SER-PMW01-051716	17-May-16		0.0013	0.0020 U	0.00095 J	0.0039	0.0010 U	0.0039	0.0010 U	0.0122	0.0010 U	0.0010 U	0.0104 <sup>A</sup>	0.0010 U	0.00092 J
	HS SER-PMW01-080316	3-Aug-16		0.00070 J	0.0020 U	0.0010 U	0.0016	0.0010 U	0.00032 J	0.0010 U	0.0055	0.0010 U	0.0010 U	0.0040	0.0010 U	0.0010 U
	HS SER-PMW01-120716	7-Dec-16		0.00094 J	0.0020 U	0.0010 U	0.0013	0.0010 U	0.0010 U	0.0040	0.0010 U	0.0010 U	0.0073 <sup>A</sup>	0.0010 U	0.0010 U	0.0010 U
	HS SER-PMW01-020817	8-Feb-17		0.0010	0.0020 U	0.0010 U	0.0011	0.0010 U	0.0010 U	0.0051	0.0010 U	0.0010 U	0.0010 U	0.0116 <sup>A</sup>	0.0010 U	0.0010 U
PMW02	HS SER-PMW02-051816	18-May-16		0.0018	0.0020 U	0.00045 J	0.0035	0.0010 U	0.0050	0.0010 U	0.0137	0.0010 U	0.0010 U	0.024 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-PMW02-080316	3-Aug-16		0.0017	0.0020 U	0.00031 J	0.0023	0.0010 U	0.00058 J	0.0010 U	0.0128	0.0010 U	0.0010 U	0.0238 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-PMW02-120816	8-Dec-16		0.0017	0.0020 U	0.0010 U	0.0026	0.0010 U	0.0013	0.0010 U	0.0071	0.0010 U	0.0010 U	0.0240 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-PMW02-020817	8-Feb-17		0.0021	0.0020 U	0.0010 U	0.0054	0.0010 U	0.0098	0.0010 U	0.0025	0.0010 U	0.0010 U	0.0217 <sup>A</sup>	0.0010 U	0.0088 <sup>A</sup>

**Notes:**

PRG Preliminary Remediation Goals (PRGs) from the Record of Decision (ROD)

<sup>A</sup> Class 1 - Groundwater Remediation Objectives

**6.5<sup>A</sup>** Concentration exceeds the indicated standard.

**15.2** Concentration was detected but did not exceed applicable standards.

**0.03 U** The analyte was not detected above the laboratory estimated quantitation limit.

**0.50 U** Laboratory estimated quantitation limit exceeded standard.

n/v No standard/guideline value.

- Parameter not analyzed / not available.

mg/L milligrams per liter

<sup>b,c</sup> Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change.

Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.

<sup>c</sup> Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.

\* LCS or LCSD exceeds the control limits

B The analyte was detected in the method, field and/or trip blank.

H Sample was prepped or analyzed beyond the specified holding time

J Indicates estimated value.

NJ The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

**Table 3**  
**Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - Performance Wells**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride	
Preliminary Remediation Goals (PRG) <sup>A</sup>				0.005 <sup>A</sup> <sub>c</sub>	0.005 <sup>A</sup> <sub>c</sub>	0.007 <sup>b,c</sup> <sup>A</sup>	0.7 <sup>A</sup>	0.005 <sup>A</sup> <sub>c</sub>	0.07 <sup>A</sup> <sub>c</sub>	0.1 <sup>A</sup> <sub>c</sub>	0.2 <sub>b,c</sub> <sup>A</sup>	0.005 <sup>A</sup> <sub>c</sub>	0.7 <sup>A</sup> <sub>c</sub>	0.005 <sup>A</sup> <sub>c</sub>	1.0 <sup>A</sup> <sub>c</sub>	0.002 <sup>A</sup> <sub>c</sub>
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW01	HS SER-RAMW01-051716	17-May-16		0.0015	0.0020 U	0.00049 J	0.0018	0.0010 U	0.0010 U	0.0010 U	0.0059	0.0010 U	0.0010 U	0.0084 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-RAMW01-080416	4-Aug-16		0.00099 J	0.0020 U	0.0010 U	0.0019	0.0010 U	0.00041 J	0.0010 U	0.0042	0.0010 U	0.0010 U	0.0092 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-RAMW01-120816	8-Dec-16		0.00086 J	0.0020 U	0.0010 U	0.00083 J	0.0010 U	0.0010 U	0.0010 U	0.0021	0.0010 U	0.0010 U	0.0073 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER-RAMW01-020817	8-Feb-17		0.00075 J	0.0020 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.0010 U	0.0017	0.0010 U	0.0010 U	0.0060 <sup>A</sup>	0.0010 U	0.0010 U
RAMW02	HS SER RAMW02-051716	17-May-16		0.00043 J	0.0020 U	0.00024 J	0.0041	0.0010 U	0.0010 U	0.0010 U	0.0039	0.0010 U	0.0010 U	0.0051 <sup>A</sup>	0.0010 U	0.0010 U
	HS SER RAMW02-080416	4-Aug-16		0.00029 J	0.0020 U	0.0010 U	0.0058	0.0010 U	0.00034 J	0.0010 U	0.0026	0.0010 U	0.0010 U	0.0031	0.0010 U	0.0010 U
	HS SER RAMW02-120816	8-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010	0.0010 U	0.0010 U	0.0010 U	0.0014	0.0010 U	0.0010 U	0.0030	0.0010 U	0.0010 U
	HS SER RAMW02-020717	7-Feb-17		0.00027 J	0.0020 U	0.0010 U	0.0018	0.0010 U	0.0010 U	0.0010 U	0.0013	0.0010 U	0.0010 U	0.0021	0.0010 U	0.0010 U
RAMW03	HS SER-RAMW03-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00036 J	0.0010 U	0.0010 U	0.00028 J	0.0010 U	0.0010 U
	HS SER-DUP02-051716	17-May-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.00043 J	0.00010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	
	HS SER-RAMW03-080316	3-Aug-16		0.00052 J	0.0020 U	0.0010 U	0.00063 J	0.0010 U	0.0010 U	0.00086 J	0.0010 U	0.0010 U	0.0011	0.0010 U	0.0010 U	
	HS SER-DUP02-080316	3-Aug-16	Field Duplicate	0.00047 J	0.0020 U	0.0010 U	0.00062 J	0.0010 U	0.0010 U	0.00081 J	0.0010 U	0.0010 U	0.0010	0.0010 U	0.0010 U	
	HS SER-RAMW03-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00032 J	0.0010 U	0.0010 U	0.00070 J	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U	
	HS SER-DUP02-120716	7-Dec-16	Field Duplicate	0.0010 U	0.0020 U	0.0010 U	0.00034 J	0.0010 U	0.0010 U	0.00073 J	0.0010 U	0.0010 U	0.00070 J	0.0010 U	0.0010 U	
	HS SER-RAMW03-020717	7-Feb-17		0.00042 J	0.0020 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.0010 U	0.0013	0.0010 U	0.0010 U	0.00098 J	0.0010 U	0.0010 U
RAMW04	HS SER-RAMW04-051716	17-May-16		0.0010 U	0.0020 U	0.0010 U	0.00049 J	0.0010 U	0.0010 U	0.00079 J	0.0010 U	0.0010 U	0.00055 J	0.0010 U	0.0010 U	
	HS SER-RAMW04-080316	3-Aug-16		0.00032 J	0.0020 U	0.0010 U	0.00047 J	0.0010 U	0.0010 U	0.00071 J	0.0010 U	0.0010 U	0.00093 J	0.0010 U	0.0010 U	
	HS SER-RAMW04-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00036 J	0.0010 U	0.0010 U	0.00052 J	0.0010 U	0.0010 U	0.00079 J	0.0010 U	0.0010 U	
	HS SER-RAMW04-020717	7-Feb-17		0.00037 J	0.0020 U	0.0010 U	0.00057 J	0.0010 U	0.0010 U	0.00054 J	0.0010 U	0.0010 U	0.00089 J	0.0010 U	0.0010 U	
RAMW05	HS SER-RAMW05-051716	17-May-16		0.00079 J	0.0020 U	0.00099 J	0.00069 J	0.0010 U	0.00096 J	0.0010 U	0.0143	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-080316	3-Aug-16		0.00048 J	0.0020 U	0.0010 U	0.00085 J	0.0010 U	0.0016	0.0010 U	0.0042	0.0010 U	0.0010 U	0.00025 J	0.0010 U	0.0010 U
	HS SER-RAMW05-120719	7-Dec-16		0.00075 J	0.0020 U	0.0010 U	0.0012	0.0010 U	0.0030	0.0010 U	0.0105	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW05-020717	7-Feb-17		0.0015	0.0020 U	0.0015	0.0030	0.0010 U	0.0072	0.0010 U	0.0702	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW06	HS SER-RAMW06-051616	16-May-16		0.0016	0.0020 U	0.0153 <sup>A</sup>	0.0044	0.0010 U	0.0047	0.0010 U	0.1540	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-080316	3-Aug-16		0.00051 J	0.0020 U	0.00047 J	0.0029	0.0010 U	0.0065	0.0010 U	0.0271	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.00063 J	0.0010 U	0.0017	0.0010 U	0.0124	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW06-020717	7-Feb-17		0.0011	0.0020 U	0.0061	0.0031	0.0010 U	0.0114	0.0010 U	0.1550	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
RAMW07	HS SER-RAMW07-051616	16-May-16		0.050 U	0.10 U	1.780 <sup>A</sup>	0.170	0.050 U	0.622 <sup>A</sup>	0.050 U	16.3 <sup>A</sup>	0.050 U	0.0825	0.050 U	0.050 U	0.050 U
	HS SER-RAMW07-080316	3-Aug-16		0.00089 J	0.0020 U	0.0549 <sup>A</sup>	0.0756	0.0010 U	0.264 <sup>A</sup>	0.0010 U	1.19 <sup>A</sup>	0.0010 U	0.0183	0.0020	0.00073 J	0.0010 U
	HS SER-RAMW07-120716	7-Dec-16		0.00035 J	0.0020 U	0.00055 J	0.0040	0.0010 U	0.00062 J	0.0010 U	0.0634	0.0010 U	0.0010 U	0.0014	0.0010 U	0.0010 U
	HS SER-RAMW07-020617	6-Feb-17		0.0050 U	0.010 U	0.0317 <sup>A</sup>	0.0383	0.0050 U	0.0683	0.0050 U	0.906 <sup>A</sup>	0.0050 U	0.0050 U			

**Table 3**  
**Second Quarter 2016 to First Quarter 2017 Groundwater Analytical Results - Performance Wells**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

				Trichloroethene (TCE)	Methylene Chloride (Dichloromethane)	1,1-Dichloroethene	1,1-Dichloroethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Ethylbenzene	Tetrachloroethene (PCE)	Toluene	Vinyl chloride
Preliminary Remediation Goals (PRG) <sup>A</sup>				0.005 <sup>c</sup>	0.005 <sup>c</sup>	0.007 <sup>b,c</sup>	0.7 <sup>A</sup>	0.005 <sup>c</sup>	0.07 <sup>c</sup>	0.1 <sup>A</sup>	0.2 <sup>b,c</sup>	0.005 <sup>c</sup>	0.7 <sup>c</sup>	0.005 <sup>c</sup>	1.0 <sup>A</sup>	0.002 <sup>c</sup>
Well	Sample ID	Sample Date	Sample Type	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
RAMW08	HS SER-RAMW08-051616	16-May-16		0.0010 U	0.0020 U	0.0010 U	0.00048 J	0.0010 U	0.0010 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-080316	3-Aug-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-120716	7-Dec-16		0.0010 U	0.0020 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	HS SER-RAMW08-020617	6-Feb-17		0.0010 U	0.0020 U	0.0010 U	0.00026 J	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U

**Notes:**

PRG Preliminary Remediation Goals (PRGs) from the Record of Decision (ROD)

<sup>A</sup> Class 1 - Groundwater Remediation Objectives

**6.5<sup>A</sup>** Concentration exceeds the indicated standard at specified well; however, compliance with the standard is only applicable to GMZ wells.

**15.2** Concentration was detected but did not exceed applicable standards.

**0.50 U** Laboratory estimated quantitation limit exceeded standard.

**0.03 U** The analyte was not detected above the laboratory estimated quantitation limit.

mg/L milligrams per liter

n/v No standard/guideline value.

- Parameter not analyzed / not available.

<sup>b,c</sup> Oral Reference Dose and/or Reference Concentration under review by USEPA. Listed values subject to change.

Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for

Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.

<sup>c</sup> Value listed is also the Groundwater Quality Standard for this chemical pursuant to 35 Ill.Adm.Code 620.410 for

Class I Groundwater or 35 Ill.Adm.Code 620.420 for Class II Groundwater.

**B** The analyte was detected in the method, field and/or trip blank.

**J** Indicates estimated value.

**NJ** The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated

numerical value represents its approximate concentration.

Groundwater monitoring wells located within the influence of active treatment systems yield groundwater sample data that is potentially biased by the treatment activities. This potential bias should be considered during evaluation of this data.

**Table 4.1**  
**Cell 1 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 1 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl chloride	Methylene Chloride			
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/10/2009		159	53	140	13000	3.76E-02	140 U	0.00E+00	45000	9.67E-02	140 U	0.00E+00	910	1.91E-03	18000	3.79E-02	140 U	0.00E+00
12/22/2009		372	124	140	980	2.84E-03	26 U	0.00E+00	11000	2.36E-02	26 U	0.00E+00	130	2.74E-04	7300	1.54E-02	26 U	0.00E+00
2/24/2010		1893	631	150	640	1.99E-03	6.0 U	0.00E+00	1900	4.37E-03	6.0 U	0.00E+00	28	6.31E-05	630	1.42E-03	6.0 U	0.00E+00
3/15/2010		2345	782	140	1100	3.19E-03	8.4 U	0.00E+00	2800	6.01E-03	8.4 U	0.00E+00	37	7.79E-05	1300	2.74E-03	8.4 U	0.00E+00
4/14/2010		2804	935	150	1400	4.34E-03	12 U	0.00E+00	4100	9.44E-03	12 U	0.00E+00	31	6.99E-05	1400	3.16E-03	12 U	0.00E+00
5/13/2010		3495	1165	140	590	1.71E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	13	2.74E-05	1100	2.31E-03	7.0 U	0.00E+00
6/21/2010		4430	1477	108	710	1.59E-03	8.6 U	0.00E+00	2600	4.31E-03	8.6 U	0.00E+00	16 J	2.60E-05	570	9.25E-04	8.6 U	0.00E+00
7/21/2010		5058	1686	140	480	1.39E-03	7.0 U	0.00E+00	2600	5.58E-03	7.0 U	0.00E+00	10	2.10E-05	630	1.33E-03	7.0 U	0.00E+00
8/23/2010		5784	1928	0	370	0.00E+00	8.2 U	0.00E+00	2400	0.00E+00	8.2 U	0.00E+00	540	0.00E+00	8.2 U	0.00E+00	500	0.00E+00
9/23/2010		6523	2174	145	480	1.44E-03	7.2 U	0.00E+00	2000	4.45E-03	7.2 U	0.00E+00	7.2 U	0.00E+00	250	5.45E-04	7.2 U	0.00E+00
10/22/2010		7219	2406	140	390	1.13E-03	5.0 U	0.00E+00	1600	3.44E-03	5.0 U	0.00E+00	5.0 U	0.00E+00	160	3.37E-04	5.0 U	0.00E+00
10/22/2010	Dup	7219	2406	140	2600	7.53E-03	10 U	0.00E+00	960	2.06E-03	10 U	0.00E+00	120	2.53E-04	490	1.03E-03	10 U	0.00E+00
11/15/2010		7794	2598	140	420	1.22E-03	4.3 U	0.00E+00	1700	3.65E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	140	2.95E-04	4.3 U	0.00E+00
12/22/2010		8508	2777	150	600	1.86E-03	4.2 U	0.00E+00	1600	3.68E-03	4.2 U	0.00E+00	8.5	1.92E-05	510	1.15E-03	4.2 U	0.00E+00
1/24/2011		9302	2975	170	360	1.27E-03	5.2 U	0.00E+00	1700	4.43E-03	5.2 U	0.00E+00	5.2 U	0.00E+00	140	3.58E-04	5.2 U	0.00E+00
2/25/2011		10071	3167	165	280	9.56E-04	4.0 U	0.00E+00	1600	4.05E-03	4.0 U	0.00E+00	4.5	1.12E-05	120	2.98E-04	4.0 U	0.00E+00
3/18/2011		10573	3293	165	200	6.83E-04	6.3 U	0.00E+00	1900	4.81E-03	6.3 U	0.00E+00	6.3 U	0.00E+00	130	3.22E-04	6.3 U	0.00E+00
4/15/2011		11241	3460	160	180 J,B	5.96E-04	4.5 U	0.00E+00	1700	4.17E-03	4.5 U	0.00E+00	4.5 U	0.00E+00	110	2.65E-04	4.5 U	0.00E+00
5/19/2011		12061	3665	160	110	3.64E-04	4.3 U	0.00E+00	1100	2.70E-03	4.3 U	0.00E+00	4.3 U	0.00E+00	85	2.04E-04	4.3 U	0.00E+00
6/16/2011		12722	3830	170	150	5.27E-04	2.3 U	0.00E+00	730	1.90E-03	2.3 U	0.00E+00	2.8	7.15E-06	63	1.61E-04	2.3 U	0.00E+00
7/15/2011		13417	4472	170	140	4.92E-04	1.2 U	0.00E+00	390	1.02E-03	1.2 U	0.00E+00	2.2	5.62E-06	47	1.20E-04	1.2 U	0.00E+00
8/22/2011		14324	4775	170	150	5.27E-04	1.1 U	0.00E+00	210	5.48E-04	1.1 U	0.00E+00	2.1	5.37E-06	36	9.20E-05	1.1 U	0.00E+00
9/15/2011		14905	4968	170	130	4.57E-04	1.1 U	0.00E+00	130	3.39E-04	1.1 U	0.00E+00	1.5	3.83E-06	40	1.02E-04	1.1 U	0.00E+00
10/14/2011		15598	5199	160	65	2.15E-04	0.74 U	0.00E+00	100	2.45E-04	0.74 U	0.00E+00	1.4	3.37E-06	43	1.03E-04	0.86	2.07E-06
11/21/2011		16510	5503	170	49 J,B	1.72E-04	0.74 U	0.00E+00	68	0.74 U	0.00E+00	2.9	7.41E-06	28	7.15E-05	1.1	2.81E-06	
12/14/2011		17010	5670	170	53	1.86E-04	0.78 U	0.00E+00	45	1.17E-04	0.78 U	0.00E+00	2.7	6.90E-06	18	4.60E-05	0.78 U	0.00E+00
1/19/2012		17923	5974	170	51	1.79E-04	0.79 U	0.00E+00	41	1.07E-04	0.79 U	0.00E+00	1	2.56E-06	12	3.07E-05	0.79 U	0.00E+00
2/15/2012		18566	6189	170	46	1.62E-04	0.78 U	0.00E+00	30	7.82E-05	0.78 U	0.00E+00	9.4	2.40E-05	10	2.56E-05	0.78 U	0.00E+00
3/15/2012		19262	6421	170	38 J,B	1.34E-04	0.71 U	0.00E+00	34	8.87E-05	0.71 U	0.00E+00	0.8	2.04E-06	7.8	1.99E-05	0.71 U	0.00E+00
4/19/2012		20102	6701	160	55	1.82E-04	0.76 U	0.00E+00	38	9.33E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	7.4	1.78E-05	0.76 U	0.00E+00
5/16/2012		20748	6916	160	51	1.69E-04	0.76 U	0.00E+00	36	8.84E-05	0.76 U	0.00E+00	0.76 U	0.00E+00	7.1	1.71E-05	0.76 U	0.00E+00
Pulse-off period June 1, 2012 to August 14, 2012																		
8/14/2012		21282	7094	160	120	3.97E-04	1.3 U	0.00E+00	51	1.25E-04	1.3 U	0.00E+00	1.3 U	0.00E+00	8.3	2.00E-05	1.3 U	0.00E+00
9/17/2012		21952	7317	160	190	6.29E-												

**Table 4.1**  
**Cell 1 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 1 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		ethyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
				SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)																				
12/10/2009		159	53	140	140 U	0.00E+00	140 U	0.00E+00	17000	2.38E-02	140 U	0.00E+00	560	1.12E-03	250	5.76E-04	1800	4.15E-03	470	1.08E-03	3800	4.79E-03	140 U	0.00E+00	2.25E-01	11.91
12/22/2009		372	124	140	26 U	0.00E+00	26 U	0.00E+00	1700	2.38E-03	26 U	0.00E+00	32	6.40E-05	26 U	0.00E+00	26 U	0.00E+00	100 U	0.00E+00	26 U	0.00E+00	4.67E-02	15.23		
2/24/2010		1893	631	150	6.0 U	0.00E+00	6.0 U	0.00E+00	130	1.95E-04	19	3.45E-05	6.0 U	0.00E+00	6.0 U	0.00E+00	6.0 U	0.00E+00	98	1.32E-04	370	6.20E-04	9.52E-03	20.06		
3/15/2010		2345	782	140	8.4 U	0.00E+00	8.4 U	0.00E+00	170	2.38E-04	8.4 U	0.00E+00	34 U	0.00E+00	8.4 U	0.00E+00	1.30E-02	22.02								
4/14/2010		2804	935	150	12 U	0.00E+00	12 U	0.00E+00	320	4.80E-04	14	2.54E-05	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	50 U	0.00E+00	12 U	0.00E+00	2.10E-02	25.22		
5/13/2010		3495	1165	140	7.0 U	0.00E+00	7.0 U	0.00E+00	100	1.40E-04	12	2.03E-05	7.0 U	0.00E+00	7.0 U	0.00E+00	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.10E-02	27.75		
6/21/2010		4430	1477	108	8.6 U	0.00E+00	8.6 U	0.00E+00	87 J	9.40E-05	10	1.31E-05	8.6 U	0.00E+00	8.6 U	0.00E+00	8.6 U	0.00E+00	34 J	3.31E-05	8.6 U	0.00E+00	7.86E-03	30.20		
7/21/2010		5058	1686	140	7.0 U	0.00E+00	7.0 U	0.00E+00	60	8.40E-05	7.0 U	0.00E+00	28 U	0.00E+00	7.0 U	0.00E+00	1.11E-02	32.52								
8/23/2010		5784	1928	0	8.2 U	0.00E+00	8.2 U	0.00E+00	38	0.00E+00	24	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	8.2 U	0.00E+00	53	0.00E+00	8.2 U	0.00E+00	0.00E+00	32.52		
9/23/2010		6523	2174	145	7.2 U	0.00E+00	7.2 U	0.00E+00	15	2.18E-05	17	2.99E-05	7.2 U	0.00E+00	7.2 U	0.00E+00	7.2 U	0.00E+00	29 U	0.00E+00	7.2 U	0.00E+00	7.99E-03	34.49		
10/22/2010	Dup	7219	2406	140	5.0 U	0.00E+00	5.0 U	0.00E+00	11	1.54E-05	7.1	1.20E-05	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	45	5.67E-05	5.0 U	0.00E+00	5.91E-03	35.86		
10/22/2010		7219	2406	140	10 U	0.00E+00	41 U	0.00E+00	10 U	0.00E+00	1.15E-02	37.16														
11/15/2010		7794	2598	140	4.3 U	0.00E+00	4.3 U	0.00E+00	12	1.68E-05	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	5.73E-03	36.96								
12/22/2010		8508	2777	150	4.2 U	0.00E+00	4.2 U	0.00E+00	10	1.50E-05	5.3	9.63E-06	4.2 U	0.00E+00	4.2 U	0.00E+00	4.2 U	0.00E+00	16 NJ	2.16E-05	4.2 U	0.00E+00	7.08E-03	38.22		
1/24/2011		9302	2975	170	5.2 U	0.00E+00	21 U	0.00E+00	5.2 U	0.00E+00	6.28E-03	39.47														
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	5.48E-03	40.53		
3/18/2011		10573	3293	165	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	6.3 U	0.00E+00	25 U	0.00E+00	6.3 U	0.00E+00	5.97E-03	41.27		
4/15/2011		11241	3460	160	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	4.5 U	0.00E+00	5.24E-03	42.15		
5/19/2011		12061	3665	160	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	3.52E-03	42.87		
6/16/2011		12722	3830	170	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	9.2 U	0.00E+00	3.12E-03	43.39								
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.5	3.09E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.4	1.13E-05	4.6 U	0.00E+00	2.44E-03	44.96		
8/22/2011		14324	4775	170	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	6.7	1.38E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	44 JB	6.74E-05	4.5 U	0.00E+00	2.10E-03	45.59		
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	5.6	8.57E-06	4.5 U	0.00E+00	1.75E-03	45.93								
10/14/2011		15598	5199	160	0.74 U	0.00E+00	0.74 U	0.00E+00	3.0 U	0.00E+00	0.74 U	0.00E+00	1.8	4.1												

**Table 4.1**  
**Cell 1 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 1 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Tetrachloroethene	Trichloroethene	Vinyl chloride	Methylene Chloride			
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
<b>Pulse -off period November 18, 2013 to January 15, 2014</b>																		
1/15/2014		28218	8651	160	100	3.31E-04	1.1 U	0.00E+00	30	7.36E-05	1.1 U	0.00E+00	1.3	3.13E-06	4.7	1.13E-05	1.1 U	0.00E+00
3/14/2014		29432	8894	160	78	2.58E-04	1.1 U	0.00E+00	34	8.35E-05	1.1 U	0.00E+00	3.8	9.14E-06	6.1	1.47E-05	1.1 U	0.00E+00
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																		
5/15/2014		29914	8990	160	95	3.14E-04	1.2 U	0.00E+00	32	7.86E-05	1.2 U	0.00E+00	1.9	4.57E-06	6	1.44E-05	1.2 U	0.00E+00
7/23/2014		31567	9321	160	160	5.29E-04	1.2 U	0.00E+00	41	1.01E-04	1.2 U	0.00E+00	3.6	8.66E-06	9.3	2.24E-05	1.2 U	0.00E+00
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																		
9/16/2014		32432	9494	160	480	1.59E-03	2.2 U	0.00E+00	11	2.70E-05	2.2 U	0.00E+00	4	9.62E-06	8.7	2.09E-05	2.2 U	0.00E+00
11/14/2014		33847	9777	160	60	1.99E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.6	3.85E-06	3.6	8.66E-06	1.1 U	0.00E+00
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																		
1/9/2015		33855	9778	160	86	2.85E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	1.1	2.65E-06	4.0	9.62E-06	1.1 U	0.00E+00
1/9/2015	Dup	-	-	160	84	2.78E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6	1.11E-05	1.2 U	0.00E+00
3/13/2015		35189	10045	160	58	1.92E-04	1.3 U	0.00E+00	17	4.17E-05	1.3 U	0.00E+00	2.4	5.77E-06	3.6	8.66E-06	1.3 U	0.00E+00
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																		
5/15/2015		35194	10046	160	63	2.08E-04	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	2.3 U	0.00E+00	2.7	6.49E-06	2.3 U	0.00E+00
7/16/2015		36677	10343	160	110	3.64E-04	1.1 U	0.00E+00	32	7.86E-05	1.1 U	0.00E+00	3.1	7.45E-06	6.7	1.61E-05	1.1 U	0.00E+00
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																		
9/22/2015		36680	10343	160	150	4.96E-04	1.4 U	0.00E+00	29	7.12E-05	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6	1.35E-05	1.4 U	0.00E+00
11/20/2015		38094	10626	160	41	1.36E-04	1.0 U	0.00E+00	9.5	2.33E-05	1.0 U	0.00E+00	1.3	3.13E-06	2.5	6.01E-06	1.0 U	0.00E+00
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																		
1/19/2016		38101	10627	160	80	2.65E-04	1.1 U	0.00E+00	15	3.68E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	2.8	6.73E-06	1.1 U	0.00E+00
3/18/2016		39377	10883	160	48	1.59E-04	1.1 U	0.00E+00	14	3.44E-05	1.1 U	0.00E+00	1.9	4.57E-06	3.6	8.66E-06	1.1 U	0.00E+00
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																		
5/19/2016		39382	10884	160	55	1.82E-04	0.98 U	0.00E+00	14	3.44E-05	0.98 U	0.00E+00	0.98 U	0.00E+00	2.8	6.73E-06	0.98 U	0.00E+00
7/22/2016		40915	11190	160	94	3.11E-04	1.2 U	0.00E+00	22	5.40E-05	1.2 U	0.00E+00	2.3	5.53E-06	4.9	1.18E-05	1.2 U	0.00E+00
<b>Pulse -off period July 22, 2016 to September 20, 2016</b>																		
9/20/2016		40918	11191	160	120	3.97E-04	1.0 U	0.00E+00	16	3.93E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	3.3	7.94E-06	1.0 U	0.00E+00
11/28/2016		42571	11521	160	50	1.65E-04	1.1 U	0.00E+00	16	3.93E-05	1.1 U	0.00E+00	2.4	5.77E-06	3.2	7.70E-06	1.1 U	0.00E+00
<b>Pulse -off period November 28, 2016 to January 24, 2017</b>																		
1/24/2017		42575	11522	170	45	1.58E-04	1.1 U	0.00E+00	12	3.13E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	4.09E-06	1.1 U	0.00E+00
3/23/2017		43840	11775	160	36	1.19E-04	1.2 U	0.00E+00	14	3.44E-05	1.2 U	0.00E+00	2.1	5.05E-06	2.8	6.73E-06	1.2 U	0.00E+00

**Notes:**

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387\*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or

When a duplicate sample was collected, the original sample results are used in the mass calculations.

**Table 4.1**  
**Cell 1 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 1 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 1 Run Time (hr)	Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Ethyl Ethyl Ketone (MEM)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
				SVE Flow Rate (scfm)	Conc (ppbv)	Mass Removal Rate (lb/hr)																				
<b>Pulse-off period November 18, 2013 to January 15, 2014</b>																										
1/15/2014		28218	8651	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	7.32E-04	49.36								
3/14/2014		29432	8894	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	5.12E-04	49.48				
<b>Pulse-off period March 14, 2014 to May 15, 2014</b>																										
5/15/2014		29914	8990	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	6.60E-04	49.54								
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.42E-03	50.01				
<b>Pulse-off period July 23, 2014 to September 16, 2014</b>																										
9/16/2014		32432	9494	160	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.75E-03	50.32								
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	4.74E-04	50.45				
<b>Pulse-off period November 14, 2014 to January 9, 2015</b>																										
1/9/2015	Dup	33855	9778	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	5.99E-04	50.45								
1/9/2015		-	-	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	6.95E-04	-				
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	3.99E-04	50.56				
<b>Pulse-off period March 13, 2015 to May 15, 2015</b>																										
5/15/2015		35194	10046	160	2.3 U	0.00E+00	2.3 U	0.00E+00	9.2 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.2 U	0.00E+00	5.51E-04	50.56								
7/16/2015		36677	10343	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	1.23E-03	50.92				
<b>Pulse-off period July 16, 2015 to September 22, 2015</b>																										
9/22/2015		36680	10343	160	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	2.2	5.79E-06	3.4	8.95E-06	1.4 U	0.00E+00	14 U	0.00E+00	5.5 U	0.00E+00	1.69E-03	50.92
11/20/2015		38094	10626	160	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.5	3.43E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.0 U	0.00E+00	3.86E-04	51.03		
<b>Pulse-off period November 20, 2015 to January 19, 2016</b>																										
1/19/2016		38101	10627	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.2 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.2 U	0.00E+00	7.56E-04	51.03								
3/18/2016		39377	10883	160	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	3.8	1.00E-05	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	4.18E-04	51.14		
<b>Pulse-off period March 18, 2016 to May 19, 2016</b>																										
5/19/2016		39382	10884	160	0.98 U	0.00E+00	0.98 U	0.00E+00	3.9 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	0.98 U	0.00E+00	9.8 U	0.00E+00	3.8 U	0.00E+00	5.38E-04	51.14		
7/22/2016		40915	11190	160	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00																

**Table 4.2**  
**Cell 2 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 2 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009	Dup	178	59	150	40000	1.24E-01	86 U	0.00E+00	21000	4.83E-02	86 U	0.00E+00	4500	1.01E-02	25000	5.64E-02	86 U	0.00E+00	1500	5.78E-03
12/15/2009		205	68	140	27000	7.82E-02	110 U	0.00E+00	14000	3.01E-02	110 U	0.00E+00	3100	6.52E-03	16000	3.37E-02	110 U	0.00E+00	950	3.42E-03
12/29/2009		539	180	140	24000	6.95E-02	100 U	0.00E+00	9100	1.95E-02	100 U	0.00E+00	2100	4.42E-03	9200	1.94E-02	100 U	0.00E+00	1000	3.60E-03
1/13/2010		903	301	150	9100	2.82E-02	35 U	0.00E+00	3700	8.52E-03	35 U	0.00E+00	880	1.98E-03	3200	7.21E-03	35 U	0.00E+00	610	2.35E-03
1/27/2010		1224	408	150	13000	4.03E-02	40 U	0.00E+00	4300	9.90E-03	40 U	0.00E+00	1100	2.48E-03	3900	8.79E-03	40 U	0.00E+00	600	2.31E-03
1/27/2010		1224	408	150	14000	4.34E-02	40 U	0.00E+00	4800	1.10E-02	40 U	0.00E+00	1200	2.71E-03	4400	9.92E-03	40 U	0.00E+00	630	2.43E-03
2/24/2010		1893	631	150	8000	2.48E-02	22 U	0.00E+00	3000	6.90E-03	22 U	0.00E+00	520	1.17E-03	2300	5.19E-03	22 U	0.00E+00	200	7.71E-04
3/15/2010		2345	782	140	17000	4.92E-02	48 U	0.00E+00	8000	1.72E-02	48 U	0.00E+00	1100	2.31E-03	6300	1.33E-02	48 U	0.00E+00	860	3.10E-03
4/14/2010		2804	935	150	8400	2.61E-02	23 U	0.00E+00	2200	5.06E-03	23 U	0.00E+00	480	1.08E-03	2000	4.51E-03	23 U	0.00E+00	1300	5.01E-03
5/13/2010		3495	1165	140	8000	2.32E-02	11 U	0.00E+00	3100	6.66E-03	11 U	0.00E+00	480	1.01E-03	2800	5.89E-03	11 U	0.00E+00	380	1.37E-03
6/21/2010		4430	1477	108	5800	1.30E-02	23 U	0.00E+00	3000 J	4.97E-03	23 U	0.00E+00	360 J	5.84E-04	2100	3.41E-03	23 U	0.00E+00	300	8.33E-04
7/21/2010		5058	1686	140	4500	1.30E-02	14 U	0.00E+00	1600	3.44E-03	14 U	0.00E+00	280	5.89E-04	1200	2.53E-03	14 U	0.00E+00	260	9.36E-04
8/23/2010		5784	1928	0	7100	0.00E+00	20 U	0.00E+00	2700	0.00E+00	20 U	0.00E+00	290	0.00E+00	1400	0.00E+00	20 U	0.00E+00	620	0.00E+00
9/23/2010		6523	2174	145	4300	1.29E-02	12 U	0.00E+00	1600	3.56E-03	12 U	0.00E+00	270	5.88E-04	940	2.05E-03	12 U	0.00E+00	290	1.08E-03
10/22/2010		7219	2406	140	2500	7.24E-03	10 U	0.00E+00	890	1.91E-03	10 U	0.00E+00	110	2.31E-04	470	9.89E-04	10 U	0.00E+00	180	6.48E-04
11/15/2010		7794	2598	140	3200	9.27E-03	11 U	0.00E+00	1100	2.36E-03	11 U	0.00E+00	130	2.74E-04	440	9.26E-04	11 U	0.00E+00	120	4.32E-04
12/22/2010		8508	2955	150	4000	1.24E-02	14 U	0.00E+00	1500	3.45E-03	14 U	0.00E+00	240	5.41E-04	730	1.65E-03	14 U	0.00E+00	72	2.78E-04
1/24/2011		9302	3352	170	780	2.74E-03	2.7 U	0.00E+00	800	2.09E-03	2.7 U	0.00E+00	22	5.62E-05	390	9.96E-04	2.7 U	0.00E+00	26	1.14E-04
2/25/2011		10071	3737	165	1500	5.12E-03	4.0 U	0.00E+00	1100	2.78E-03	4.0 U	0.00E+00	44	1.09E-04	560	1.39E-03	4.0 U	0.00E+00	32	1.36E-04
3/18/2011		10573	3988	165	370	1.26E-03	1.0 U	0.00E+00	160	4.05E-04	1.0 U	0.00E+00	11	2.73E-05	62	1.54E-04	1.0 U	0.00E+00	19	8.06E-05
4/15/2011		11241	4322	160	300 J.B	9.93E-04	1.0 U	0.00E+00	95	2.33E-04	1.0 U	0.00E+00	12	2.89E-05	41	9.86E-05	1.0 U	0.00E+00	20	8.23E-05
5/19/2011		12061	4732	160	93	3.08E-04	1.1 U	0.00E+00	39	9.57E-05	1.1 U	0.00E+00	3.5	8.42E-06	21	5.05E-05	1.1 U	0.00E+00	14	5.76E-05
6/16/2011		12722	5062	170	99	3.48E-04	1.2 U	0.00E+00	48	1.25E-04	1.2 U	0.00E+00	2.4	6.13E-06	21	5.37E-05	1.2 U	0.00E+00	30	1.31E-04
7/15/2011		13417	4472	170	77	2.71E-04	1.2 U	0.00E+00	25	6.52E-05	1.2 U	0.00E+00	1.7	4.34E-06	18	4.60E-05	1.2 U	0.00E+00	30	1.31E-04
8/22/2011		14324	4775	170	78	2.74E-04	1.2 U	0.00E+00	31	8.09E-05	1.2 U	0.00E+00	1.2	3.07E-06	17	4.34E-05	1.2 U	0.00E+00	54	2.36E-04
9/15/2011		14905	4968	170	69	2.43E-04	1.1 U	0.00E+00	20	5.22E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	12	3.07E-05	1.1 U	0.00E+00	32	1.40E-04
10/14/2011		15598	5199	160	43	1.42E-04	0.82 U	0.00E+00	12	2.95E-05	0.82 U	0.00E+00	0.82 U	0.00E+00	6.3	1.52E-05	0.82 U	0.00E+00	8.4	3.46E-05
11/21/2011		16510	5503	170	28 J.B	9.85E-05	1.6 U	0.00E+00	7.7	2.01E-05	1.6 U	0.00E+00	1.6 U	0.00E+00	4.1	1.05E-05	1.6 U	0.00E+00	7	3.06E-05
12/14/2011		17010	5670	170	26	9.14E-05	0.76 U	0.00E+00	5.2	1.36E-05	0.76 U	0.00E+00								

**Table 4.2**  
**Cell 2 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 2 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
12/11/2009	Dup	178	59	150	330	1.01E-03	4400	6.40E-03	86 U	0.00E+00	86 U	0.00E+00	86 U	0.00E+00	210	3.15E-04	86 U	0.00E+00	200	4.29E-04
12/15/2009		205	68	140	240	6.84E-04	3500	4.75E-03	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	370	5.18E-04	110 U	0.00E+00	140	2.80E-04
12/29/2009		539	180	140	240	6.84E-04	1500	2.03E-03	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	120	1.68E-04	100 U	0.00E+00	100 U	0.00E+00
1/13/2010		903	301	150	130	3.97E-04	250	3.63E-04	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	170	2.55E-04	35 U	0.00E+00	35 U	0.00E+00
1/27/2010		1224	408	150	150	4.58E-04	200	2.91E-04	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	120	1.80E-04	40 U	0.00E+00	40 U	0.00E+00
1/27/2010		1224	408	150	180	5.50E-04	240	3.49E-04	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	130	1.95E-04	40 U	0.00E+00	40 U	0.00E+00
2/24/2010		1893	631	150	98	2.99E-04	73	1.06E-04	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	38	5.70E-05	22 U	0.00E+00	22 U	0.00E+00
3/15/2010		2345	782	140	210	5.99E-04	62	8.41E-05	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	180	2.52E-04	48 U	0.00E+00	48 U	0.00E+00
4/14/2010		2804	935	150	190	5.81E-04	69	1.00E-04	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00
5/13/2010		3495	1165	140	78	2.22E-04	42	5.70E-05	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	20	2.80E-05	11 U	0.00E+00	11 U	0.00E+00
6/21/2010		4430	1477	108	88	1.94E-04	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	33 J	3.56E-05	23 U	0.00E+00	23 U	0.00E+00
7/21/2010		5058	1686	140	80	2.28E-04	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
8/23/2010		5784	1928	0	150	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	21	0.00E+00	20 U	0.00E+00	20 U	0.00E+00
9/23/2010		6523	2174	145	74	2.19E-04	12	1.69E-05	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00
10/22/2010		7219	2406	140	42	1.20E-04	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00
11/15/2010		7794	2598	140	35	9.98E-05	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00
12/22/2010		8508	2955	150	27	8.25E-05	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00
1/24/2011		9302	3352	170	9	3.12E-05	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	3.1	7.53E-06
2/25/2011		10071	3737	165	15	5.04E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00
3/18/2011		10573	3988	165	7.3	2.45E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
4/15/2011		11241	4322	160	8.5	2.77E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
5/19/2011		12061	4732	160	11	3.59E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	8.1	1.57E-05	1.1 U	0.00E+00
6/16/2011		12722	5062	170	15	5.19E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.9	3.91E-06	1.2 U	0.00E+00
7/15/2011		13417	4472	170	21	7.27E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	5.3	1.09E-05	1.2 U	0.00E+00
8/22/2011		14324	4775	170	22	7.62E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00
9/15/2011		14905	4968	170	18	6.23E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	4.6	9.47E-06	1.1 U	0.00E+00
10/14/2011		15598	5199	160	9.1	2.97E-05	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	3.3 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00
11/21/2011		16510	5503	170	5.1	1.77E-05	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00
12/14/2011		17010	5670	170	3.4	1.18E-05														

**Table 4.2**  
**Cell 2 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 2 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/11/2009	Dup	178	59	150	86 U	0.00E+00	240	5.93E-04	110	2.72E-04	340 U	0.00E+00	86 U	0.00E+00	2.54E-01	15.05
12/15/2009		205	68	140	110 U	0.00E+00	230	5.30E-04	110 U	0.00E+00	430 U	0.00E+00	110 U	0.00E+00	1.59E-01	16.48
12/29/2009		539	180	140	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.19E-01	29.76
1/13/2010		903	301	150	35 U	0.00E+00	35 U	0.00E+00	35 U	0.00E+00	140 U	0.00E+00	35 U	0.00E+00	4.93E-02	35.75
1/27/2010		1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	160 U	0.00E+00	40 U	0.00E+00	6.47E-02	42.68
1/27/2010		1224	408	150	40 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	160 U	0.00E+00	40 U	0.00E+00	7.06E-02	43.31
2/24/2010		1893	631	150	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	87 U	0.00E+00	22 U	0.00E+00	3.93E-02	51.44
3/15/2010		2345	782	140	48 U	0.00E+00	48 U	0.00E+00	48 U	0.00E+00	190 U	0.00E+00	48 U	0.00E+00	8.60E-02	64.40
4/14/2010		2804	935	150	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	92 U	0.00E+00	23 U	0.00E+00	4.24E-02	70.89
5/13/2010		3495	1165	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	3.84E-02	79.74
6/21/2010		4430	1477	108	23 U	0.00E+00	23 U	0.00E+00	23 U	0.00E+00	92 U	0.00E+00	23 U	0.00E+00	2.30E-02	86.90
7/21/2010		5058	1686	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	58 U	0.00E+00	14 U	0.00E+00	2.07E-02	91.24
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	91.24
9/23/2010		6523	2174	145	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	2.04E-02	96.27
10/22/2010		7219	2406	140	10 U	0.00E+00	10 U	0.00E+00	10 U	0.00E+00	42 U	0.00E+00	10 U	0.00E+00	1.11E-02	98.85
11/15/2010		7794	2598	140	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	44 U	0.00E+00	11 U	0.00E+00	1.34E-02	101.41
12/22/2010		8508	2955	150	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	56 U	0.00E+00	14 U	0.00E+00	1.84E-02	107.99
1/24/2011		9302	3352	170	2.7 U	0.00E+00	2.7 U	0.00E+00	2.7 U	0.00E+00	11 U	0.00E+00	11	2.09E-05	6.06E-03	110.39
2/25/2011		10071	3737	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	9.59E-03	114.08
3/18/2011		10573	3988	165	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	15	2.23E-05	4.0 U	0.00E+00	1.98E-03	114.57
4/15/2011		11241	4322	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	8.2 J,B	1.18E-05	4.1 U	0.00E+00	1.48E-03	115.07
5/19/2011		12061	4732	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11	1.58E-05	4.5 U	0.00E+00	5.87E-04	115.31
6/16/2011		12722	5062	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	19	2.91E-05	4.7 U	0.00E+00	7.49E-04	115.55
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	19	2.91E-05	4.6 U	0.00E+00	6.30E-04	115.18
8/22/2011		14324	4775	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	6.8 J,B	1.04E-05	4.7 U	0.00E+00	7.28E-04	115.40
9/15/2011		14905	4968	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11	1.68E-05	4.5 U	0.00E+00	5.54E-04	115.51
10/14/2011		15598	5199	160	0.82 U	0.00E+00	0.82 U	0.00E+00	0.82 U	0.00E+00	5	7.20E-06	3.3 U	0.00E+00	2.58E-04	115.57
11/21/2011		16510	5503	170	1.6 U	0.00E+00	1.6 U	0.00E+00	1.6 U	0.00E+00	6.4 U	0.00E+00	6.4 U	0.00E+00	1.77E-04	115.62
12/14/2011		17010	5670	170	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	7.6 U	0.00E+00	3.0 U	0.00E+00	1.65E-04	115.65
1/19/2012		17923	5974	170	0.79	2.21E-06	1.5	4.20E-06	1.1	3.08E-06	14	2.14E-05	3.0 U	0.00E+00	1.80E-04	115.71
2/15/2012		18566	6189	170	0.73 U	0.00E+00	0.73 U	0.00E+00	0.73 U	0.00E+00	7.9	1.21E-05	2.9 U	0.00E+00	1.83E-04	115.74
3/15/2012		19262	6421	170	0.71 U	0.00E+00	0.71 U	0.00E+00	0.71 U	0.00E+00	8.9	1.36E-05	2.8 U	0.00E+00	1.75E-04	115.79
4/19/2012		20102	6701	160	0.76 U	0.00E+00	0.76 U	0.00E+00	0.76 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	1.88E-04	115.84
5/16/2012		20748	6916	160	0.78 U	0.00E+00	0.78 U	0.00E+00	0.78 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00	1.94E-04	115.88
<i>Pulse-off period June 1, 2012 to August 14, 2012</i>																
8/14/2012		21282	7094	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	21	3.03E-05	5.3 U	0.00E+00	1.79E-03	116.20
9/17/2012		21952	7317	160	1.1 U	0.00E+00	1.1 U	0.00								

**Table 4.2**  
**Cell 2 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 2 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
<b>Pulse -off period December 14, 2012 to February 26, 2013</b>																				
2/26/2013		22556	7518	160	1.9	6.29E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00		
4/11/2013		23581	7723	160	140	4.63E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	4	9.62E-06	3.3	7.94E-06	1.2 U	0.00E+00		
<b>Pulse -off period April 11, 2013 to May 10, 2013</b>																				
5/10/2013		23583	7724	160	210	6.95E-04	1.1 U	0.00E+00	62	1.52E-04	1.2 U	0.00E+00	3.9	9.38E-06	5.4	1.30E-05	1.1 U	0.00E+00		
7/15/2013		25160	8039	160	160	5.29E-04	1.1 U	0.00E+00	20	4.91E-05	1.1 U	0.00E+00	3.7	8.90E-06	3.7	8.90E-06	1.1 U	0.00E+00		
7/15/2013	Dup	25160	8039	160	160	5.29E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	3.2	7.70E-06	3.5	8.42E-06	1.2 U	0.00E+00		
<b>Pulse -off period July 15, 2013 to September 9, 2013</b>																				
9/9/2013		25162	8040	160	380	1.26E-03	2.0 U	0.00E+00	110	2.70E-04	2.0 U	0.00E+00	3.4	8.18E-06	7	1.68E-05	2.0 U	0.00E+00		
11/18/2013		26825	8372	160	44	1.46E-04	1.1 U	0.00E+00	11	2.70E-05	1.1 U	0.00E+00	1.3	3.13E-06	2.3	5.53E-06	1.1 U	0.00E+00		
<b>Pulse -off period November 18, 2013 to January 15, 2014</b>																				
1/15/2014		28218	8651	160	160	5.29E-04	1.2 U	0.00E+00	55	1.35E-04	1.2 U	0.00E+00	3.3	7.94E-06	2.9	6.97E-06	1.2 U	0.00E+00		
3/14/2014		29432	8894	160	16	5.29E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.9	4.57E-06	1.2 U	0.00E+00	1.2 U	0.00E+00		
3/14/2014	Dup	29432	8894	160	19	6.29E-05	1.2 U	0.00E+00	1.6	3.93E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.8	4.33E-06	1.2 U	0.00E+00		
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																				
5/15/2014		29914	8990	160	240	7.94E-04	1.1 U	0.00E+00	99	2.43E-04	1.1 U	0.00E+00	4.8	1.15E-05	7.8	1.88E-05	1.1 U	0.00E+00		
7/23/2014		31567	9321	160	89	2.95E-04	1.2 U	0.00E+00	20	4.91E-05	1.2 U	0.00E+00	1.8	4.33E-06	3.7	8.90E-06	1.2 U	0.00E+00		
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																				
9/16/2014		32432	9494	160	310	1.03E-03	2.1 U	0.00E+00	120	2.95E-04	2.1 U	0.00E+00	3.9	9.38E-06	6	1.44E-05	2.1 U	0.00E+00		
11/14/2014		33847	9777	160	42	1.39E-04	1.1 U	0.00E+00	7.8	1.91E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	3.85E-06	1.1 U	0.00E+00		
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																				
1/9/2015		33855	9778	160	210	6.96E-04	1.2 U	0.00E+00	69	1.69E-04	1.2 U	0.00E+00	3.7	8.90E-06	3.4	8.18E-06	1.2 U	0.00E+00		
3/13/2015		35189	10045	160	18	5.96E-05	1.3 U	0.00E+00	5.4	1.33E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00		
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																				
5/15/2015		35194	10046	160	240	7.94E-04	1.2 U	0.00E+00	76	1.87E-04	1.2 U	0.00E+00	3.0	7.21E-06	3.5	8.42E-06	1.2 U	0.00E+00		
7/16/2015		36677	10343	160	64	2.12E-04	1.2 U	0.00E+00	17	4.17E-05	1.2 U	0.00E+00	1.7	4.09E-06	4.2	1.01E-05	1.2 U	0.00E+00		
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																				
9/22/2015		36680	10343	160	450	1.49E-03	1.1 U	0.00E+00	210	5.16E-04	1.1 U	0.00E+00	3.4	8.18E-06	9.6	2.31E-05	1.1 U	0.00E+00		
11/20/2015		38094	10626	160	43	1.42E-04	1.2 U	0.00E+00	12	2.95E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.5	3.61E-06	1.2 U	0.00E+00		
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																				
1/19/2016		38101	10627	160	260	8.60E-04	1.1 U	0.00E+00	89	2.18E-04	1.1 U	0.00E+00	2.5	6.01E-06	3.2	7.70E-06	1.1 U	0.00E+00		
3/18/2016		39377	10883	160	23	7.61E-05	1.1 U	0.00E+00	9.5	2.33E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00		
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																				

**Table 4.2**  
**Cell 2 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 2 SVE EFFLUENT

Cell 2 SVE Effluent																		
Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
Pulse-off period December 14, 2012 to February 26, 2013																		
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5 U	0.00E+00	1.2 U	0.00E+00
4/11/2013		23581	7723	160	8	2.61E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period April 11, 2013 to May 10, 2013																		
5/10/2013		23583	7724	160	9.5	3.10E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	18	2.88E-05	1.1 U	0.00E+00
7/15/2013		25160	8039	160	24	7.82E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
7/15/2013	Dup	25160	8039	160	24	7.82E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period July 15, 2013 to September 9, 2013																		
9/9/2013		25162	8040	160	31	1.01E-04	2.0 U	0.00E+00	20 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	8.0 U	0.00E+00	2.0 U	0.00E+00
11/18/2013		26825	8372	160	8.4	2.74E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period November 18, 2013 to January 15, 2014																		
1/15/2014		28218	8651	160	7.2	2.35E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00
3/14/2014	Dup	29432	8894	160	1.5	4.89E-06	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period March 14, 2014 to May 15, 2014																		
5/15/2014		29914	8990	160	6.6	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	16	2.56E-05	1.1 U	0.00E+00
7/23/2014		31567	9321	160	19	6.19E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period July 23, 2014 to September 16, 2014																		
9/16/2014		32432	9494	160	26	8.47E-05	2.1 U	0.00E+00	21 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	8.3 U	0.00E+00	3.5	6.78E-06
11/14/2014		33847	9777	160	7.3	2.38E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period November 14, 2014 to January 9, 2015																		
1/9/2015		33855	9778	160	9.3	3.03E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
3/13/2015		35189	10045	160	3.0	9.78E-06	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.0 U	0.00E+00	1.3 U	0.00E+00
Pulse-off period March 13, 2015 to May 15, 2015																		
5/15/2015		35194	10046	160	5.4	1.76E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.0	1.12E-05	1.2 U	0.00E+00
7/16/2015		36677	10343	160	18.0	5.87E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period July 16, 2015 to September 22, 2015																		
9/22/2015		36680	10343	160	30	9.78E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
11/20/2015		38094	10626	160	9.7	3.16E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00
Pulse-off period November 20, 2015 to January 19, 2016																		
1/19/2016		38101	10627	160	8.5	2.77E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		39377	10883	160	3	9.78E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period March 18, 2016 to May 19, 2016																		
5/19/2016		39382	10884	160	4.2	1.37E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00
7/22/2016		40915	11190	160	14	4.56E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.5	2.91E-06
Pulse-off period July 22, 2016 to September 20, 2016																		
9/20/2016		40918	11191	160	20	6.52E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00
11/28/2016		42571	11521	160	8.9	2.90E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
Pulse-off period November 28, 2016 to January 24, 2017																		
1/24/2017		42575	11522	170	8.7	3.01E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
3/23/2017		43840	11775	160	5.6	1.83E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00

## Notes:

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387\*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

**MW** molecular weight (values from the U.S. National Library of Medicine)

SCFM standard cubic feet per minute  
Indicates estimated value

**B** The analyte was detected in the method, field and/or laboratory.

trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

**Table 4.2**  
**Cell 2 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 2 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 2 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Cumulative Mass Removal (lb)	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
<b>Pulse -off period December 14, 2012 to February 26, 2013</b>																
2/26/2013		22556	7518	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5 U	0.00E+00	6.29E-06	116.86
4/11/2013		23581	7723	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	5.54E-04	116.97
<b>Pulse -off period April 11, 2013 to May 10, 2013</b>																
5/10/2013		23583	7724	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	9.56E-04	116.97
7/15/2013		25160	8039	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	7.61E-04	117.21
7/15/2013	Dup	25160	8039	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	7.43E-04	-
<b>Pulse -off period July 15, 2013 to September 9, 2013</b>																
9/9/2013		25162	8040	160	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	20 U	0.00E+00	8.0 U	0.00E+00	1.86E-03	117.21
11/18/2013		26825	8372	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.66E-04	117.30
<b>Pulse -off period November 18, 2013 to January 15, 2014</b>																
1/15/2014		28218	8651	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	7.44E-04	117.51
3/14/2014		29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	5.75E-05	117.52
3/14/2014	Dup	29432	8894	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	8.30E-05	-
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																
5/15/2014		29914	8990	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	25	3.60E-05	11 U	0.00E+00	1.21E-03	117.64
7/23/2014		31567	9321	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	4.64E-04	117.79
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																
9/16/2014		32432	9494	160	2.1 U	0.00E+00	2.1 U	0.00E+00	2.1 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	1.51E-03	118.05
11/14/2014		33847	9777	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.31E-04	118.12
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																
1/9/2015		33855	9778	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	9.45E-04	118.12
3/13/2015		35189	10045	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.0 U	0.00E+00	9.70E-05	118.15
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																
5/15/2015		35194	10046	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	1.06E-03	118.15
7/16/2015		36677	10343	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	3.62E-04	118.25
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																
9/22/2015		36680	10343	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	118.26
11/20/2015		38094	10626	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	2.65E-04	118.33
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																
1/19/2016		38101	10627	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.18E-03	118.33
3/18/2016		39377	10883	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	1.24E-04	118.36
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																
5/19/2016		39382	10884	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	9.87E-04	118.36
7/22/2016		40915	11190	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	2.77E-04	118.45
<b>Pulse -off period July 22, 2016 to September 20, 2016</b>																
9/20/2016		40918	11191	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.52E-03	118.45
11/28/2016																

**Table 4.3**  
**Cell 3 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 3 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/14/2009	Dup	181	60	140	94000	2.72E-01	270 U	0.00E+00	1100	2.36E-03	270 U	0.00E+00	2300	4.84E-03	8100	1.70E-02	270 U	0.00E+00	750	2.70E-03
12/16/2009		229	76	150	46000	1.43E-01	110 U	0.00E+00	710	1.63E-03	110 U	0.00E+00	1100	2.48E-03	5500	1.24E-02	110 U	0.00E+00	400	1.54E-03
1/5/2010		707	236	140	42000	1.22E-01	150 U	0.00E+00	290	6.23E-04	150 U	0.00E+00	980	2.06E-03	1500	3.16E-03	150 U	0.00E+00	240	8.64E-04
1/21/2010		1084	361	150	15000	4.65E-02	42 U	0.00E+00	260	5.98E-04	42 U	0.00E+00	280	6.31E-04	1600	3.61E-03	42 U	0.00E+00	170	6.56E-04
1/21/2010		1084	361	150	16000	4.96E-02	43 U	0.00E+00	280	6.44E-04	43 U	0.00E+00	290	6.54E-04	1700	3.83E-03	43 U	0.00E+00	170	6.56E-04
2/24/2010		1893	631	150	11000	3.41E-02	28 U	0.00E+00	240	5.52E-04	28 U	0.00E+00	280	6.31E-04	1100	2.48E-03	28 U	0.00E+00	140	5.40E-04
3/15/2010		2345	782	140	20000	5.79E-02	21 U	0.00E+00	400	8.59E-04	21 U	0.00E+00	510	1.07E-03	1900	4.00E-03	21 U	0.00E+00	280	1.01E-03
4/14/2010		2804	935	150	31000	9.62E-02	100 U	0.00E+00	380	8.75E-04	100 U	0.00E+00	1100	2.48E-03	1200	2.71E-03	100 U	0.00E+00	820	3.16E-03
5/13/2010		3495	1165	140	8300	2.40E-02	12 U	0.00E+00	220	4.73E-04	12 U	0.00E+00	190	4.00E-04	960	2.02E-03	12 U	0.00E+00	200	7.20E-04
6/21/2010		4430	1477	108	7200	1.61E-02	21 U	0.00E+00	220	3.65E-04	21 U	0.00E+00	150	2.43E-04	660	1.07E-03	21 U	0.00E+00	160	4.44E-04
7/21/2010		5058	1686	140	6100	1.77E-02	20 U	0.00E+00	120	2.58E-04	20 U	0.00E+00	130	2.74E-04	460	9.68E-04	20 U	0.00E+00	120	4.32E-04
8/23/2010		5784	1928	0	8000	0.00E+00	20 U	0.00E+00	200	0.00E+00	20 U	0.00E+00	120	0.00E+00	490	0.00E+00	20 U	0.00E+00	220	0.00E+00
9/23/2010		6523	2174	145	6600	1.98E-02	11 U	0.00E+00	140	3.11E-04	11 U	0.00E+00	140	3.05E-04	440	9.59E-04	11 U	0.00E+00	160	5.96E-04
10/22/2010		7219	2406	140	3700	1.07E-02	14 U	0.00E+00	91	1.95E-04	14 U	0.00E+00	66	1.39E-04	210	4.42E-04	14 U	0.00E+00	110	3.96E-04
11/15/2010		7794	2598	140	4600	1.33E-02	15 U	0.00E+00	120	2.58E-04	15 U	0.00E+00	64	1.35E-04	170	3.58E-04	15 U	0.00E+00	88	3.17E-04
12/22/2010		8508	2777	150	5600	1.74E-02	20 U	0.00E+00	150	3.45E-04	20 U	0.00E+00	120	2.71E-04	330	7.44E-04	20 U	0.00E+00	56	2.16E-04
1/24/2011		9302	2975	170	2200	7.74E-03	8.3 U	0.00E+00	130	3.39E-04	8.3 U	0.00E+00	27	6.90E-05	200	5.11E-04	8.3 U	0.00E+00	35	1.53E-04
2/25/2011		10071	3167	165	1300	4.44E-03	4.0 U	0.00E+00	45	1.14E-04	4.0 U	0.00E+00	25	6.20E-05	72	1.79E-04	4.0 U	0.00E+00	28	1.19E-04
3/18/2011		10573	3293	165	360	1.23E-03	1.3 U	0.00E+00	24	6.08E-05	1.3 U	0.00E+00	5.4	1.34E-05	35	8.68E-05	1.3 U	0.00E+00	13	5.51E-05
4/15/2011		11241	3460	160	160 J,B	5.29E-04	1.0 U	0.00E+00	17	4.17E-05	1.0 U	0.00E+00	2.8	6.73E-06	28	6.73E-05	1.0 U	0.00E+00	15	6.17E-05
5/19/2011		12061	3665	160	64	2.12E-04	1.2 U	0.00E+00	10	2.45E-05	1.2 U	0.00E+00	1.4	3.37E-06	12	2.89E-05	1.2 U	0.00E+00	9.6	3.95E-05
6/16/2011		12722	3830	170	160	5.63E-04	1.2 U	0.00E+00	280	7.30E-04	1.2 U	0.00E+00	2.5	6.39E-06	34	8.69E-05	1.2 U	0.00E+00	61	2.67E-04
7/15/2011		13417	4472	170	190	6.68E-04	1.2 U	0.00E+00	8.3	2.16E-05	1.2 U	0.00E+00	2.8	7.15E-06	23	5.88E-05	1.2 U	0.00E+00	22	9.62E-05
8/22/2011		14324	4775	170	1600	5.63E-03	4.3 U	0.00E+00	19	4.96E-05	4.3 U	0.00E+00	21	5.37E-05	130	3.32E-04	4.3 U	0.00E+00	39	1.70E-04
9/15/2011		14905	4968	170	800	2.81E-03	3.7 U	0.00E+00	9.5	2.48E-05	3.7 U	0.00E+00	12	3.07E-05	62	1.58E-04	3.7 U	0.00E+00	24	1.05E-04
10/14/2011		15598	5199	160	750	2.48E-03	3.0 U	0.00E+00	10	2.45E-05	3.0 U	0.00E+00	13	3.13E-05	37	8.90E-05	3.0 U	0.00E+00	15	6.17E-05
11/21/2011		16510	5503	170	380	1.34E-03	1.4 U	0.00E+00	6.6	1.72E-05	1.4 U	0.00E+00	5.6	1.43E-05	24	6.13E-05	1.4 U	0.00E+00	7.9	3.45E-05
12/14/2011		17010	5670	170	830	2.92E-03	3.5 U	0.00E+00	8.7	2.27E-05	3.5 U	0.00E+00	70	1.79E-04	33	8.43E-05	3.5 U	0.00E+00	6.9	3.02E-05
1/19/2012		17923	597																	

**Table 4.3**  
**Cell 3 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 3 SVE EFFLUENT				SVE Effluent Data for Various VOCs																	
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene		
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	
12/14/2009	Dup	181	60	140	1000	2.85E-03	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	270 U	0.00E+00	
12/16/2009		229	76	150	550	1.68E-03	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	110 U	0.00E+00	
1/5/2010		707	236	140	250	7.13E-04	150 U	0.00E+00	220	4.06E-04	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	
1/21/2010		1084	361	150	140	4.28E-04	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	
1/21/2010		1084	361	150	140	4.28E-04	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	
2/24/2010		1893	631	150	66	2.02E-04	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	
3/15/2010		2345	782	140	120	3.42E-04	51	6.92E-05	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	
4/14/2010		2804	935	150	190	5.81E-04	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	
5/13/2010		3495	1165	140	43	1.23E-04	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	
6/21/2010		4430	1477	108	55	1.21E-04	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	
7/21/2010		5058	1686	140	44	1.25E-04	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	
8/23/2010		5784	1928	0	66	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	
9/23/2010		6523	2174	145	50	1.48E-04	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	
10/22/2010		7219	2406	140	31	8.84E-05	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	
11/15/2010		7794	2598	140	29	8.27E-05	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	
12/22/2010		8508	2777	150	21	6.42E-05	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	
1/24/2011		9302	2975	170	17	5.89E-05	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	
2/25/2011		10071	3167	165	16	5.38E-05	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	
3/18/2011		10573	3293	165	5.9	1.98E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.4 U	0.00E+00	1.9	3.80E-06	1.3 U	0.00E+00	
4/15/2011		11241	3460	160	7.7	2.51E-05	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	2.6	5.04E-06	1.0 U	0.00E+00	
5/19/2011		12061	3665	160	6.9	2.25E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.9	3.68E-06	1.2 U	0.00E+00	
6/16/2011		12722	3830	170	9.8	3.39E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.6	3.29E-06	1.2 U	0.00E+00	
7/15/2011		13417	4472	170	9.3	3.22E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	4.3 U	0.00E+00	
8/22/2011		14324	4775	170	21	7.27E-05	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	
9/15/2011		14905	4968	170	14	4.85E-05	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	4.1	8.44E-06	3.7 U	0.00E+00	
10/14/2011		15598	5199	160	13	4.24E-05	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	
11/21/2011		16510	5503	170	9.2	3.19E-05	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	
12/14/2011		17010	5670	170	22	7.62E-05	3.5 U	0.00E+00	35 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	
1/19/2012</td																					

**Table 4.3**  
**Cell 3 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 3 SVE EFFLUENT																
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
12/14/2009	Dup	181	60	140	270 U	0.00E+00	1600	3.69E-03	510	1.18E-03	1100 U	0.00E+00	270 U	0.00E+00	3.07E-01	18.51
12/16/2009		229	76	150	110 U	0.00E+00	540	1.33E-03	240	5.93E-04	590	7.97E-04	110 U	0.00E+00	1.65E-01	21.16
1/5/2010		707	236	140	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	590 U	0.00E+00	150 U	0.00E+00	1.29E-01	41.78
1/21/2010		1084	361	150	42 U	0.00E+00	42 U	0.00E+00	42 U	0.00E+00	170 U	0.00E+00	42 U	0.00E+00	5.25E-02	48.37
1/21/2010		1084	361	150	43 U	0.00E+00	43 U	0.00E+00	43 U	0.00E+00	170 U	0.00E+00	43 U	0.00E+00	5.59E-02	48.80
2/24/2010		1893	631	150	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00	3.85E-02	58.76
3/15/2010		2345	782	140	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	6.53E-02	68.60
4/14/2010		2804	935	150	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	1.06E-01	84.81
5/13/2010		3495	1165	140	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	48 U	0.00E+00	12 U	0.00E+00	2.78E-02	91.21
6/21/2010		4430	1477	108	21 U	0.00E+00	21 U	0.00E+00	21 U	0.00E+00	83 U	0.00E+00	21 U	0.00E+00	1.83E-02	96.92
7/21/2010		5058	1686	140	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	79 U	0.00E+00	20 U	0.00E+00	1.97E-02	101.05
8/23/2010		5784	1928	0	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	0.00E+00	101.05
9/23/2010		6523	2174	145	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	43 U	0.00E+00	11 U	0.00E+00	2.21E-02	106.49
10/22/2010		7219	2406	140	14 U	0.00E+00	14 U	0.00E+00	14 U	0.00E+00	55 U	0.00E+00	14 U	0.00E+00	1.20E-02	109.27
11/15/2010		7794	2598	140	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	59 U	0.00E+00	15 U	0.00E+00	1.45E-02	112.05
12/22/2010		8508	2777	150	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	82 U	0.00E+00	20 U	0.00E+00	1.90E-02	115.44
1/24/2011		9302	2975	170	8.3 U	0.00E+00	8.3 U	0.00E+00	8.3 U	0.00E+00	33 U	0.00E+00	8.3 U	0.00E+00	8.87E-03	117.20
2/25/2011		10071	3167	165	4.0 U	0.00E+00	4.0 U	0.00E+00	4.0 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	4.96E-03	118.15
3/18/2011		10573	3293	165	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	10	1.49E-05	5.4 U	0.00E+00	1.48E-03	118.34
4/15/2011		11241	3460	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	7.3 J,B	1.05E-05	4.1 U	0.00E+00	7.48E-04	118.47
5/19/2011		12061	3665	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	3.34E-04	118.53
6/16/2011		12722	3830	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	6.8	1.04E-05	4.7 U	0.00E+00	1.70E-03	118.81
7/15/2011		13417	4472	170	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	7.7	1.18E-05	4.8 U	0.00E+00	8.96E-04	119.39
8/22/2011		14324	4775	170	4.3 U	0.00E+00	4.3 U	0.00E+00	4.3 U	0.00E+00	17 U	0.00E+00	17 U	0.00E+00	6.30E-03	121.30
9/15/2011		14905	4968	170	3.7 U	0.00E+00	3.7 U	0.00E+00	3.7 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	3.19E-03	121.91
10/14/2011		15598	5199	160	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	2.73E-03	122.54
11/21/2011		16510	5503	170	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.5 U,J	0.00E+00	5.5 U	0.00E+00	1.50E-03	123.00
12/14/2011		17010	5670	170	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	380 J	5.82E-04	58	1.10E-04	4.00E-03	123.67
1/19/2012		17923	5974	170	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	3.03E-03	124.59
2/15/2012		18566	6189	170	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	18 U	0.00E+00	6.70E-03	126.03
3/15/2012		19262	6421	170	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	6.04E-03	127.43
4/19/2012		20102	6701	160	1.8 U	0.00E+00	1.8 U	0.00E+00	1.8 U	0.00E+00	7.3 U	0.00E+00	7.3 U	0.00E+00	2.13E-03	128.02
5/16/2012		20748	6916	160	0.80 U	0.00E+00	0.80 U	0.00E+00	0.80 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	1.16E-03	128.27
Pulse-off period June 1, 2012 to August 14, 2012																
8/14/2012		21282	7094	160	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	4.27E-03	129.03
9/17/2012		21952	7317	160	16 U											

**Table 4.3**  
**Cell 3 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 3 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
<b>Pulse -off period November 18, 2013 to January 15, 2014</b>																				
1/15/2014		28218	10916	160	240	7.94E-04	1.2 U	0.00E+00	5	1.23E-05	1.2 U	0.00E+00	4.1	1.36E-05	16	3.85E-05	1.2 U	0.00E+00	18	7.40E-05
3/14/2014		29432	11645	160	72	2.38E-04	1.2 U	0.00E+00	8.7	2.14E-05	1.2 U	0.00E+00	2.4	7.94E-06	6.4	1.54E-05	1.2 U	0.00E+00	9.5	3.91E-05
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																				
5/15/2014		29914	11934	160	770	2.55E-03	2.3 U	0.00E+00	15	3.68E-05	2.3 U	0.00E+00	12	3.97E-05	86	2.07E-04	2.3 U	0.00E+00	6.9	2.84E-05
7/23/2014		31567	12926	160	130	4.30E-04	1.4 U	0.00E+00	5	1.23E-05	1.4 U	0.00E+00	1.4	4.63E-06	10	2.40E-05	1.4 U	0.00E+00	10	4.11E-05
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																				
9/16/2014		32432	13445	160	390	1.29E-03	2.4 U	0.00E+00	15	3.68E-05	2.4 U	0.00E+00	3	7.21E-06	8.4	2.02E-05	2.4 U	0.00E+00	17	6.99E-05
11/14/2014		33847	14294	160	180	5.96E-04	1.2 U	0.00E+00	5.2	1.28E-05	1.2 U	0.00E+00	3	9.93E-06	25	6.01E-05	1.2 U	0.00E+00	18	7.40E-05
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																				
1/9/2015		33855	14299	160	220	7.28E-04	1.1 U	0.00E+00	4.7	1.15E-05	1.1 U	0.00E+00	2.2	5.29E-06	18	4.33E-05	1.1 U	0.00E+00	11	4.52E-05
3/13/2015		35189	15099	160	200	6.62E-04	1.2 U	0.00E+00	4.4	1.08E-05	1.2 U	0.00E+00	3.1	1.03E-05	14	3.37E-05	1.2 U	0.00E+00	4.2	1.73E-05
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																				
5/15/2015		35194	15102	160	300	9.93E-04	1.2 U	0.00E+00	5.6	1.37E-05	1.2 U	0.00E+00	3.1	7.45E-06	10	2.40E-05	1.2 U	0.00E+00	8.1	3.33E-05
7/16/2015		36677	15992	160	180	5.96E-04	1.2 U	0.00E+00	6.5	1.60E-05	1.2 U	0.00E+00	2.3	7.61E-06	19	4.57E-05	1.2 U	0.00E+00	6	2.47E-05
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																				
9/22/2015		36680	15994	160	530	1.75E-03	2.3 U	0.00E+00	11	2.70E-05	2.3 U	0.00E+00	2.6	6.25E-06	10	2.40E-05	2.3 U	0.00E+00	18	7.40E-05
11/20/2015		38094	16842	160	64	2.12E-04	1.1 U	0.00E+00	3.2	7.86E-06	1.1 U	0.00E+00	1.2	2.89E-06	5.4	1.30E-05	1.1 U	0.00E+00	7.3	3.00E-05
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																				
1/19/2016		38101	16846	160	68	2.25E-04	1.1 U	0.00E+00	2.6	6.38E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.3	3.13E-06	1.1 U	0.00E+00	12	4.94E-05
3/18/2016		39377	17612	160	66	2.18E-04	1.1 U	0.00E+00	2.4	5.89E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	3.8	9.14E-06	1.1 U	0.00E+00	2.7	1.11E-05
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																				
5/19/2016		39382	17615	160	240	7.94E-04	1.1 U	0.00E+00	110	2.70E-04	1.1 U	0.00E+00	2.7	6.49E-06	3.7	8.90E-06	1.1 U	0.00E+00	6.4	2.63E-05
7/22/2016		40915	17921	160	120	3.97E-04	1.3 U	0.00E+00	5.2	1.28E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	9.7	2.33E-05	1.3 U	0.00E+00	9.6	3.95E-05
<b>Pulse -off period July 22, 2016 to September 20, 2016</b>																				
9/20/2016		40918	17923	160	220	7.28E-04	1.2 U	0.00E+00	5.1	1.25E-05	1.2 U	0.00E+00	1.5	3.61E-06	3.9	9.38E-06	1.2 U	0.00E+00	15	6.17E-05
11/28/2016		42571	18915	160	19	6.29E-05	1.0 U	0.00E+00	1.6	3.93E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	7.2	2.96E-05
<b>Pulse -off period November 28, 2016 to January 24, 2017</b>																				
1/24/2017		42575	18917	170	42	1.48E-04	1.1 U	0.00E+00	1.9	4.96E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	2.7	1.18E-05
3/23/2017		43840	19676	160	130	4.30E-04	1.3 U	0.00E+00	4.1	1.01E-05	1.3 U	0.00E+00	1.8	4.33E-06	9.2	2.21E-05	1.3 U	0.00E+00	2.8	1.15E-05

**Table 4.3**  
**Cell 3 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 3 SVE EFFLUENT																				
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
<b>Pulse-off period November 18, 2013 to January 15, 2014</b>																				
1/15/2014		28218	10916	160	7.6	2.48E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		29432	11645	160	8.1	2.64E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period March 14, 2014 to May 15, 2014</b>																				
5/15/2014		29914	11934	160	20	6.52E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
7/23/2014		31567	12926	160	9	2.93E-05	1.4 U	0.00E+00	14 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	5.6 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00
<b>Pulse-off period July 23, 2014 to September 16, 2014</b>																				
9/16/2014		32432	13445	160	14	4.56E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	3	5.81E-06	2.4 U	0.00E+00
11/14/2014		33847	14294	160	6.2	2.02E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period November 14, 2014 to January 9, 2015</b>																				
1/9/2015		33855	14299	160	6	1.96E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		35189	15099	160	14	4.56E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.6 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period March 13, 2015 to May 15, 2015</b>																				
5/15/2015		35194	15102	160	10	3.26E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/16/2015		36677	15992	160	12	3.91E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period July 16, 2015 to September 22, 2015</b>																				
9/22/2015		36680	15994	160	14	4.56E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00
11/20/2015		38094	16842	160	14	4.56E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
<b>Pulse-off period November 20, 2015 to January 19, 2016</b>																				
1/19/2016		38101	16846	160	7	2.15E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		39377	17612	160	11	3.59E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
<b>Pulse-off period March 18, 2016 to May 19, 2016</b>																				
5/19/2016		39382	17615	160	4.2	1.37E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
7/22/2016		40915	17921	160	9	2.93E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00
<b>Pulse-off period July 22, 2016 to September 20, 2016</b>																				
9/20/2016		40918	17923	160	8.5	2.77E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/28/2016		42571	18915	160	2.3	7.50E-06	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.2 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
<b>Pulse-off period November 28, 2016 to January 24, 2017</b>																				
1/24/2017		42575	18917	170	2.7	9.35E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U</td	

**Table 4.3**  
**Cell 3 - Phase 1 SVE System Effluent Data**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 3 SVE EFFLUENT					Effluent Concentration and Removal Rates (ppbv)										Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)			
Date	Sample Type	SVE Run Time (hr)	Cell 3 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)								
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)					
Pulse-off period	November 18, 2013 to January 15, 2014																				
1/15/2014		28218	10916	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	9.57E-04	136.88					
3/14/2014		29432	11645	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.48E-04	137.13					
Pulse-off period	March 14, 2014 to May 15, 2014																				
5/15/2014		29914	11934	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	2.92E-03	137.98					
7/23/2014		31567	12926	160	1.4 U	0.00E+00	1.4 U	0.00E+00	1.4 U	0.00E+00	14 U	0.00E+00	5.6 U	0.00E+00	5.42E-04	138.52					
Pulse-off period	July 23, 2014 to September 16, 2014																				
9/16/2014		32432	13445	160	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	1.48E-03	139.28					
11/14/2014		33847	14294	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12	1.73E-05	4.6 U	0.00E+00	7.90E-04	139.95					
Pulse-off period	November 14, 2014 to January 9, 2015																				
1/9/2015		33855	14299	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	8.53E-04	139.96					
3/13/2015		35189	15099	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	7.79E-04	140.58					
Pulse-off period	March 13, 2015 to May 15, 2015																				
5/15/2015		35194	15102	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.10E-03	140.58					
7/16/2015		36677	15992	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	7.29E-04	141.23					
Pulse-off period	July 16, 2015 to September 22, 2015																				
9/22/2015		36680	15994	160	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	23 U	0.00E+00	9.3 U	0.00E+00	1.93E-03	141.24					
11/20/2015		38094	16842	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	3.11E-04	141.50					
Pulse-off period	November 20, 2015 to January 19, 2016																				
1/19/2016		38101	16846	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.05E-04	141.50					
3/18/2016		39377	17612	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.80E-04	141.72					
Pulse-off period	March 18, 2016 to May 19, 2016																				
5/19/2016		39382	17615	160	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.12E-03	141.72					
7/22/2016		40915	17921	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	5.02E-04	141.87					
Pulse-off period	July 22, 2016 to September 20, 2016																				
9/20/2016		40918	17923	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	8.43E-04	141.87					
11/28/2016		42571	18915	160	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.2 U	0.00E+00	1.04E-04	141.98					
Pulse-off period	November 28, 2016 to January 24, 2017																				
1/24/2017		42575	18917	170	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.74E-04	141.98					
3/23/2017		43840	19676	160	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	4.98E-04	142.36					

**Notes:**

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387\*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library  
SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

**Table 4.4**  
**Cell 4 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 4 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	150000	1.55E+00	600 U	0.00E+00	1800	1.38E-02	600 U	0.00E+00	860	6.46E-03	1400	1.05E-02	600 U	0.00E+00
3/18/2011		366	366	500	41000	4.24E-01	150 U	0.00E+00	1000	7.67E-03	150 U	0.00E+00	250	1.88E-03	460	3.46E-03	150 U	0.00E+00
3/18/2011	Dup	366	366	500	40000	4.14E-01	130 U	0.00E+00	1000	7.67E-03	130 U	0.00E+00	300	2.25E-03	480	3.61E-03	130 U	0.00E+00
3/25/2011		463	463	500	22000	2.28E-01	62 U	0.00E+00	980	7.52E-03	62 U	0.00E+00	87	6.54E-04	290	2.18E-03	62 U	0.00E+00
3/30/2011		558	558	500	25000	2.59E-01	68 U	0.00E+00	820	6.29E-03	68 U	0.00E+00	190	1.43E-03	290	2.18E-03	68 U	0.00E+00
4/8/2011		764	764	500	22000	2.28E-01	80 U	0.00E+00	1000	7.67E-03	80 U	0.00E+00	170	1.28E-03	340	2.56E-03	80 U	0.00E+00
4/15/2011		924	924	500	18000	1.86E-01	84 U	0.00E+00	930	7.13E-03	84 U	0.00E+00	110	8.27E-04	280	2.10E-03	84 U	0.00E+00
4/15/2011	Dup	924	924	500	16000 J	1.65E-01	60 U	0.00E+00	820 J	6.29E-03	60 U	0.00E+00	60 UJ	0.00E+00	260 J	1.95E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	11000	1.14E-01	11 U	0.00E+00	640	4.91E-03	11 U	0.00E+00	100	7.52E-04	190	1.43E-03	11 U	0.00E+00
6/16/2011		2191	2191	420	10000	8.69E-02	11 U	0.00E+00	530	3.42E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03	11 U	0.00E+00
6/16/2011	Dup	2191	2191	420	9600	8.34E-02	11 U	0.00E+00	510	3.29E-03	11 U	0.00E+00	110 J	6.94E-04	160	1.01E-03	11 U	0.00E+00
7/15/2011		2750	2750	420	7600	6.60E-02	24 U	0.00E+00	290	1.87E-03	24 U	0.00E+00	58	3.66E-04	79	4.99E-04	24 U	0.00E+00
8/22/2011		3133	3133	420	9000	7.82E-02	27 U	0.00E+00	410	2.64E-03	27 U	0.00E+00	92	5.81E-04	160	1.01E-03	27 U	0.00E+00
8/22/2011	Dup	3133	3133	420	9000	7.82E-02	22 U	0.00E+00	400	2.58E-03	22 U	0.00E+00	80	5.05E-04	150	9.47E-04	22 U	0.00E+00
9/15/2011		3630	3630	420	7000	6.08E-02	22 U	0.00E+00	250	1.61E-03	22 U	0.00E+00	55	3.47E-04	97	6.12E-04	22 U	0.00E+00
10/14/2011		4226	4226	420	4400	3.82E-02	19 U	0.00E+00	180	1.16E-03	19 U	0.00E+00	59	3.72E-04	60	3.79E-04	19 U	0.00E+00
11/21/2011		5019	5019	380	3700	2.91E-02	16 U	0.00E+00	170	9.91E-04	16 U	0.00E+00	320	1.83E-03	63	3.60E-04	16 U	0.00E+00
12/14/2011		5343	5343	260	4000	2.15E-02	19 U	0.00E+00	140	5.58E-04	19 U	0.00E+00	300	1.17E-03	55	2.15E-04	19 U	0.00E+00
1/19/2012		5993	5993	0	5200	0.00E+00	24 U	0.00E+00	160	0.00E+00	24 U	0.00E+00	58	0.00E+00	38	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	4200	2.26E-02	19 U	0.00E+00	100	3.99E-04	19 U	0.00E+00	700	2.74E-03	53	2.07E-04	19 U	0.00E+00
3/15/2012		6946	6946	350	4000	2.90E-02	15 U	0.00E+00	120	6.44E-04	15 U	0.00E+00	38	2.00E-04	38	2.00E-04	15 U	0.00E+00
4/19/2012		7629	7629	380	5200	4.09E-02	16 U	0.00E+00	160	9.33E-04	16 U	0.00E+00	42	2.40E-04	43	2.46E-04	16 U	0.00E+00
5/16/2012		8143	8143	420	4100	3.56E-02	15 U	0.00E+00	110	7.09E-04	15 U	0.00E+00	43	2.71E-04	40	2.53E-04	15 U	0.00E+00
Pulse -off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	5000	4.34E-02	16 U	0.00E+00	98	6.32E-04	16 U	0.00E+00	66	4.17E-04	27	1.70E-04	16 U	0.00E+00
9/17/2012		9033	9033	470	3700	3.60E-02	15 U	0.00E+00	140	1.01E-03	15 U	0.00E+00	15 U	0.00E+00	26	1.84E-04	15 U	0.00E+00
Pulse -off period September 17, 2012 to November 15, 2012																		
11/15/2012		9037	9037	420	4900 J	4.26E-02	28 U	0.00E+00	74 J	4.77E-04	28 U	0.00E+00	110 J	6.94E-04	29 J	1.83E-04	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	8700	7.56E-02	24 U	0.00E+00	200 J	1.29E-03	24 U	0.00E+00	220	1.39E-03	360 J	2.27E-03	24 U	0.00E+00
12/14/2012		9439	9439	150	500	1.55E-03	1.9 U	0.00E+00	14	3.22E-05	1.9 U	0.00E+00	6.8	1.53E-05	18	4.06E-05	1.9 U	0.00E+00
Pulse -off period December 14, 2012 to February 26, 2013																		
2/26/2013		9439	9439	0	520	0.00E+00	2.2 U	0.00E+00	23	0.00E+00	2.2 U	0.00E+00	5.7	0.00E+00	28	0.00E+00	2.2 U	0.00E+00
4/11/2013		9876	9876	340	430	3.02E-03	1.8 U	0.00E+00	26	1.36E-04	1.8 U	0.00E+00	7.1	3.63E-05	28	1.43E-04	1.8 U	0.00E+00
Pulse -off period April 11, 2013 to May 10, 2013																		
5/10/2013		9882	9882	340	270	1.9												

**Table 4.4**  
**Cell 4 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 4 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011		222	222	500	7200	9.26E-02	3900	3.97E-02	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	600 U	0.00E+00	2400 U	0.00E+00	600 U	0.00E+00
3/18/2011		366	366	500	2900	3.73E-02	1600	1.63E-02	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	150 U	0.00E+00	750 J	3.75E-03	150 U	0.00E+00
3/18/2011	Dup	366	366	500	3000	3.86E-02	1600	1.63E-02	130 UJ	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	130 U	0.00E+00	1100 J	5.50E-03	130 U	0.00E+00
3/25/2011		463	463	500	3200	4.11E-02	970	9.88E-03	62 U	0.00E+00	61 NJ	4.02E-04	62 U	0.00E+00	62 U	0.00E+00	610	3.05E-03	62 U	0.00E+00
3/30/2011		558	558	500	2500	3.21E-02	1000	1.02E-02	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	68 U	0.00E+00	470	2.35E-03	68 U	0.00E+00
4/8/2011		764	764	500	2400	3.09E-02	1000	1.02E-02	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	80 U	0.00E+00	430	2.15E-03	80 U	0.00E+00
4/15/2011		924	924	500	1700	2.19E-02	920	9.37E-03	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	84 U	0.00E+00	340 U	0.00E+00	84 U	0.00E+00
4/15/2011	Dup	924	924	500	1500 J	1.93E-02	830 J	8.45E-03	60 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00	60 U	0.00E+00	260 J	1.30E-03	60 U	0.00E+00
5/19/2011		1685	1685	500	1400	1.80E-02	530	5.40E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	67	3.35E-04	26	1.57E-04
6/16/2011		2191	2191	420	1000	1.08E-02	410	3.51E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	46 U	0.00E+00	14	7.12E-05
6/16/2011	Dup	2191	2191	420	960	1.04E-02	400	3.42E-03	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	45 U	0.00E+00	12	6.10E-05
7/15/2011		2750	2750	420	570	6.16E-03	250	2.14E-03	24 U	0.00E+00	28	1.55E-04	24 U	0.00E+00	24 U	0.00E+00	95 U	0.00E+00	24 U	0.00E+00
8/22/2011		3133	3133	420	920	9.93E-03	380	3.25E-03	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	27 U	0.00E+00	110 U	0.00E+00	27 U	0.00E+00
8/22/2011	Dup	3133	3133	420	940	1.02E-02	360	3.08E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
9/15/2011		3630	3630	420	660	7.13E-03	270	2.31E-03	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	22 U	0.00E+00	90 U	0.00E+00	22 U	0.00E+00
10/14/2011		4226	4226	420	390	4.21E-03	180	1.54E-03	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	77 U	0.00E+00	19 U	0.00E+00
11/21/2011		5019	5019	380	360	3.52E-03	180	1.39E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
12/14/2011		5343	5343	260	360	2.41E-03	160	8.47E-04	19 U	0.00E+00	190 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	74 U	0.00E+00	19 U	0.00E+00
1/19/2012		5993	5993	0	320	0.00E+00	180	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	97 U	0.00E+00	24 U	0.00E+00
2/15/2012		6368	6368	260	280	1.87E-03	150	7.94E-04	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	19 U	0.00E+00	78 U	0.00E+00	19 U	0.00E+00
3/15/2012		6946	6946	350	240	2.16E-03	140	9.98E-04	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	58 U	0.00E+00	15 U	0.00E+00
4/19/2012		7629	7629	380	400	3.91E-03	180	1.39E-03	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	62 U	0.00E+00	16 U	0.00E+00
5/16/2012		8143	8143	420	320	3.46E-03	150	1.28E-03	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00
<b>Pulse -off period June 1, 2012 to August 14, 2012</b>																				
8/14/2012		8546	8546	420	490	5.29E-03	180	1.54E-03	16 U	0.00E+00	160 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	63 U	0.00E+00	16 U	0.00E+00
9/17/2012		9033	9033	470	410	4.95E-03	220	2.11E-03	15 U	0.00E+00	150 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	61 U	0.00E+00	15 U	0.00E+00
<b>Pulse -off period September 17, 2012 to November 15, 2012</b>																				
11/15/2012		9037	9037	420	260 J	2.81E-03	150 J	1.28E-03	28 U	0.00E+00	280 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	110 U	0.00E+00	28 U	0.00E+00
11/15/2012	Dup	9037	9037	420	1200 J	1.30E-02	390 J	3.34E-03	24 U	0.00E+00	240 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	94 U	0.00E+00	24 U	0.00E+00
12/14/2012		9439	9439	150	62	2.39E-04	28	8.56E-05	1.9 U	0.00E+00	19 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00				

**Table 4.4**  
**Cell 4 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 4 SVE EFFLUENT																		
Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011		222	222	500	600 U	0.00E+00	600 U	0.00E+00	710	5.84E-03	600 U	0.00E+00	2400 U	0.00E+00	2400 U	0.00E+00	1.72E+00	381.87
3/18/2011		366	366	500	620 J	4.43E-03	150 U	0.00E+00	240	1.98E-03	200	1.65E-03	1500 J	6.75E-03	590 U	0.00E+00	5.09E-01	453.50
3/18/2011	Dup	366	366	500	380 J	2.71E-03	130 U	0.00E+00	250	2.06E-03	240	1.98E-03	690 J	3.11E-03	540 U	0.00E+00	4.97E-01	453.50
3/25/2011		463	463	500	140	1.00E-03	62 U	0.00E+00	78	6.42E-04	67	5.51E-04	250 U	0.00E+00	250 U	0.00E+00	2.95E-01	482.07
3/30/2011		558	558	500	190	1.36E-03	68 U	0.00E+00	250	2.06E-03	140	1.15E-03	270 U	0.00E+00	270 U	0.00E+00	3.18E-01	512.25
4/8/2011		764	764	500	200	1.43E-03	120	9.88E-04	560	4.61E-03	260	2.14E-03	320 U	0.00E+00	320 U	0.00E+00	2.91E-01	572.27
4/15/2011		924	924	500	170	1.21E-03	110	9.05E-04	540	4.44E-03	260	2.14E-03	340 U	0.00E+00	340 U	0.00E+00	2.36E-01	610.05
4/15/2011	Dup	924	924	500	140 J	1.00E-03	99 J	8.15E-04	540 J	4.44E-03	230 J	1.89E-03	240 J,B	1.08E-03	240 U	0.00E+00	2.12E-01	610.05
5/19/2011		1685	1685	500	100	7.14E-04	140	1.15E-03	920	7.57E-03	420	3.46E-03	81	3.65E-04	43 U	0.00E+00	1.58E-01	730.28
6/16/2011		2191	2191	420	51	3.06E-04	83	5.74E-04	600	4.15E-03	280	1.94E-03	46 J,B	1.74E-04	46 U	0.00E+00	1.14E-01	753.86
6/16/2011	Dup	2191	2191	420	53	3.18E-04	78	5.39E-04	580	4.01E-03	270	1.87E-03	69 J,B	2.61E-04	45 U	0.00E+00	1.09E-01	785.55
7/15/2011		2750	2750	420	28	1.68E-04	41	2.83E-04	270	1.87E-03	120	8.30E-04	180	6.81E-04	95 U	0.00E+00	8.10E-02	830.85
8/22/2011		3133	3133	420	35 J	2.10E-04	59 J	4.08E-04	340	2.35E-03	140	9.68E-04	110 U	0.00E+00	110 U	0.00E+00	9.95E-02	868.97
8/22/2011	Dup	3133	3133	420	22 UJ	0.00E+00	30 J	2.07E-04	310	2.14E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	9.87E-02	868.65
9/15/2011		3630	3630	420	22 U	0.00E+00	31	2.14E-04	340	2.35E-03	130	8.99E-04	90 U	0.00E+00	90 U	0.00E+00	7.63E-02	906.88
10/14/2011		4226	4226	420	38	2.28E-04	19 U	0.00E+00	170	1.18E-03	70	4.84E-04	77 U	0.00E+00	77 U	0.00E+00	4.78E-02	935.35
11/21/2011		5019	5019	380	16 U	0.00E+00	17	1.06E-04	220	1.38E-03	100	6.25E-04	160 U	0.00E+00	63 U	0.00E+00	3.93E-02	966.50
12/14/2011		5343	5343	260	19 U	0.00E+00	19 U	0.00E+00	76	3.25E-04	55	2.35E-04	190 UJ	0.00E+00	74 U	0.00E+00	2.73E-02	975.34
1/19/2012		5993	5993	0	36	0.00E+00	24 U	0.00E+00	78	0.00E+00	50	0.00E+00	97 U	0.00E+00	97 U	0.00E+00	0.00E+00	975.34
2/15/2012		6368	6368	260	19 U	0.00E+00	19 U	0.00E+00	58	2.48E-04	40	1.71E-04	300	7.02E-04	78 U	0.00E+00	2.97E-02	986.48
3/15/2012		6946	6946	350	15 U	0.00E+00	15 U	0.00E+00	44	2.53E-04	31	1.79E-04	58 U	0.00E+00	58 U	0.00E+00	3.36E-02	1005.89
4/19/2012		7629	7629	380	16 U	0.00E+00	16 U	0.00E+00	48	3.00E-04	33	2.06E-04	62 U	0.00E+00	62 U	0.00E+00	4.81E-02	1038.74
5/16/2012		8143	8143	420	15 U	0.00E+00	15 U	0.00E+00	28	1.94E-04	23	1.59E-04	61 U	0.00E+00	61 U	0.00E+00	4.19E-02	1060.30
Pulse-off period June 1, 2012 to August 14, 2012																		
8/14/2012		8546	8546	420	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	160 U	0.00E+00	63 U	0.00E+00	5.15E-02	1081.05
9/17/2012		9033	9033	470	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	150 U	0.00E+00	61 U	0.00E+00	4.42E-02	1102.58
Pulse-off period September 17, 2012 to November 15, 2012																		
11/15/2012		9037	9037	420	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	28 U	0.00E+00	280 U	0.00E+00	110 U	0.00E+00	4.80E-02	1102.78
11/15/2012	Dup	9037	9037	420	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	24 U	0.00E+00	240 U	0.00E+00	94 U	0.00E+00	9.68E-02	-
12/14/2012		9439	9439	150	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	1.9 U	0.00E+00	19 U	0.00E+00	7.5 U	0.00E+00	1.96E-03	1103.57
Pulse-off period December 14, 2012 to February 26, 2013																		
2/26/2013		9439	9439	0	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	8.7 U	0.00E+00	0.00E+00	1103.57
4/11/2013		9876	9876	340</td														

**Table 4.4**  
**Cell 4 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 4 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
<b>Pulse -off period November 18, 2013 to March 14, 2014</b>																		
1/15/2014		11997	11997	320	200	1.32E-03	1.2 U	0.00E+00	5.5	2.70E-05	1.2 U	0.00E+00	3.3	1.59E-05	9.6	4.62E-05	1.2 U	0.00E+00
3/14/2014		12980	12980	180	430	1.60E-03	2.6 U	0.00E+00	6.2	1.71E-05	2.6 U	0.00E+00	8.2	2.22E-05	18	4.87E-05	2.6 U	0.00E+00
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																		
5/15/2014		12986	12986	180	470	1.75E-03	1.1 U	0.00E+00	10	2.76E-05	1.1 U	0.00E+00	6.9	1.87E-05	22	5.95E-05	1.1 U	0.00E+00
7/23/2014		14627	14627	300	14	8.69E-05	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.6	0.00E+00	1.3 U	0.00E+00		
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																		
9/16/2014		14634	14628	320	150	9.93E-04	1.2 U	0.00E+00	9	4.42E-05	1.2 U	0.00E+00	1.7	8.18E-06	15	7.21E-05	1.2 U	0.00E+00
11/14/2014		16008	16008	320	220	1.46E-03	0.96 U	0.00E+00	5	2.45E-05	0.96 U	0.00E+00	3.6	1.73E-05	8.9	4.28E-05	0.96 U	0.00E+00
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																		
1/9/2015		16015	16015	260	150	8.07E-04	1.1 U	0.00E+00	4.1	1.64E-05	1.1 U	0.00E+00	2.2	8.60E-06	7.4	2.89E-05	1.1 U	0.00E+00
3/13/2015		17178	17178	220	190	8.65E-04	1.2 U	0.00E+00	4.9	1.65E-05	1.2 U	0.00E+00	3.1	1.03E-05	5.5	1.82E-05	1.2 U	0.00E+00
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																		
5/15/2015		17186	17186	320	180	1.19E-03	2.6 U	0.00E+00	4.3	2.11E-05	2.6 U	0.00E+00	2.8	1.35E-05	5.2	2.50E-05	2.6 U	0.00E+00
7/16/2015		18436	18436	310	270	1.73E-03	1.2 U	0.00E+00	7.7	3.66E-05	1.2 U	0.00E+00	4	1.86E-05	13	6.06E-05	1.2 U	0.00E+00
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																		
9/22/2015		18439	18439	300	200	1.24E-03	1.1 U	0.00E+00	6.3	2.90E-05	1.1 U	0.00E+00	2.1	9.47E-06	11	4.96E-05	1.1 U	0.00E+00
11/20/2015		19832	19832	530	170	1.86E-03	1.2 U	0.00E+00	7	5.69E-05	1.2 U	0.00E+00	2.6	2.07E-05	12	9.56E-05	1.2 U	0.00E+00
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																		
1/19/2016		19841	19841	380	39	3.07E-04	1.1 U	0.00E+00	1.7	9.91E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	3.4	1.94E-05	1.1 U	0.00E+00
3/18/2016		21088	21088	420	88	7.64E-04	1.1 U	0.00E+00	5	3.22E-05	1.1 U	0.00E+00	1.2	7.57E-06	6.8	4.29E-05	1.1 U	0.00E+00
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																		
5/19/2016		21092	21092	180	9.3	3.46E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
5/19/2016	Dup	21092	21092	180	14	5.21E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.6	4.33E-06	1.1 U	0.00E+00
7/22/2016		22610	22610	230	33	1.57E-04	1.0 U	0.00E+00	1.9	6.70E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	3.5	1.21E-05	1.0 U	0.00E+00
<b>Pulse -off period July 22, 2016 to September 20, 2016</b>																		
9/20/2016*		22611	22611	180	33	1.23E-04	1.0 U	0.00E+00	1.9	5.25E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	3.5	9.47E-06	1.0 U	0.00E+00
11/28/2016		24162	24162	100	17	3.52E-05	1.1 U	0.00E+00	1.7	2.61E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.9	2.86E-06	1.1 U	0.00E+00
<b>Pulse -off period November 28, 2016 to January 24, 2017</b>																		
1/24/2017		24166	24166	220	19	8.65E-05	1.1 U	0.00E+00	1.5	5.06E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.5	4.96E-06	1.1 U	0.00E+00
1/24/2017	Dup	24166	24166	220	22	1.00E-04	1.1 U	0.00E+00	1.7	5.74E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.5	4.96E-06	1.1 U	0.00E+00
3/23/2017		25427	25427	190	55	2.16E-04	1.2 U	0.00E+00	4.1	1.20E-05	1.2 U	0.00E+00	1.2 U	0.00E+00	3.4	9.71E-06	1.2 U	0.00E+00

**Notes:**

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387\*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library

**Table 4.4**  
**Cell 4 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 4 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Tetrachloroethene		Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
<b>Pulse-off period November 18, 2013 to March 14, 2014</b>																				
1/15/2014		11997	11997	320	51	4.20E-04	11	7.17E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
3/14/2014		12980	12980	180	7.8	3.61E-05	14	5.13E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00
<b>Pulse-off period March 14, 2014 to May 15, 2014</b>																				
5/15/2014		12986	12986	180	38	1.76E-04	17	6.23E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00
7/23/2014		14627	14627	300	15	1.16E-04	2.4	1.47E-05	1.3 U	0.00E+00	13 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	5.2 U	0.00E+00	1.3 U	0.00E+00
<b>Pulse-off period July 23, 2014 to September 16, 2014</b>																				
9/16/2014		14634	14628	320	200	1.65E-03	39	2.54E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	2	7.75E-06
11/14/2014		16008	16008	320	69	5.68E-04	12	7.82E-05	0.96 U	0.00E+00	9.6 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	3.8 U	0.00E+00	0.96 U	0.00E+00
<b>Pulse-off period November 14, 2014 to January 9, 2015</b>																				
1/9/2015		16015	16015	260	50	3.34E-04	11	5.83E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17178	17178	220	27	1.53E-04	6.9	3.09E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.8 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period March 13, 2015 to May 15, 2015</b>																				
5/15/2015		17186	17186	320	45	3.70E-04	9.8	6.39E-05	2.6 U	0.00E+00	26 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	10 U	0.00E+00	2.6 U	0.00E+00
7/16/2015		18436	18436	310	130	1.04E-03	27	1.71E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period July 16, 2015 to September 22, 2015</b>																				
9/22/2015		18439	18439	300	200	1.54E-03	36	2.20E-04	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
11/20/2015		19832	19832	530	120	1.64E-03	23	2.48E-04	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	5.0 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse-off period November 20, 2015 to January 19, 2016</b>																				
1/19/2016		19841	19841	380	62	6.06E-04	11	8.51E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		21088	21088	420	52	5.62E-04	11	9.41E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00
<b>Pulse-off period March 18, 2016 to May 19, 2016</b>																				
5/19/2016	Dup	21092	21092	180	14	6.48E-05	2.4	8.80E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
5/19/2016		21092	21092	180	21	9.72E-05	3.9	1.43E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
7/22/2016		22610	22610	230	39	2.31E-04	7.5	3.51E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.2 U	0.00E+00	1.0 U	0.00E+00
<b>Pulse-off period July 22, 2016 to September 20, 2016</b>																				
9/20/2016*		22611	22611	180	39	1.80E-04	7.5	2.75E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.2 U	0.00E+00	1.0 U	0.00E+00
11/28/2016		24162	24162	100	14	3.60E-05	2.8	5.70E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.4 U	0.00E+00	1.1 U	0.00E+00
<b>Pulse-off period November 28, 2016 to January 24, 2017</b>																				
1/24/2017	Dup	24166	24166	220	18	1.02E-04	4	1.79E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00
1/24/20																				

**Table 4.4**  
**Cell 4 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

CELL 4 SVE EFFLUENT																Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)		
Date	Sample Type	SVE Run Time (hr)	Cell 4 Run Time (hr)	SVE Flow Rate (scfm)	Toluene		Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)				
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)			
Pulse-off period November 18, 2013 to March 14, 2014																			
1/15/2014		11997	11997	320	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.90E-03	1110.91	
3/14/2014		12980	12980	180	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00	10 U	0.00E+00	1.78E-03	1112.65	
Pulse-off period March 14, 2014 to May 15, 2014																			
5/15/2014		12986	12986	180	3.9	1.00E-05	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	2.10E-03	1112.67	
7/23/2014		14627	14627	300	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	1.3 U	0.00E+00	13 U	0.00E+00	5.2 U	0.00E+00	2.17E-04	1113.02	
Pulse-off period July 23, 2014 to September 16, 2014																			
9/16/2014		14634	14628	320	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	21	6.05E-05	4.9 U	0.00E+00	3.09E-03	1113.03	
11/14/2014		16008	16008	320	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	0.96 U	0.00E+00	9.6 U	0.00E+00	3.8 U	0.00E+00	2.19E-03	1116.04	
Pulse-off period November 14, 2014 to January 9, 2015																			
1/9/2015		16015	16015	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	1.25E-03	1116.05	
3/13/2015		17178	17178	220	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.8 U	0.00E+00	1.09E-03	1117.32	
Pulse-off period March 13, 2015 to May 15, 2015																			
5/15/2015		17186	17186	320	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	2.6 U	0.00E+00	26 U	0.00E+00	10 U	0.00E+00	1.68E-03	1117.34	
7/16/2015		18436	18436	310	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	3.05E-03	1121.16	
Pulse-off period July 16, 2015 to September 22, 2015																			
9/22/2015		18439	18439	300	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.09E-03	1121.16	
11/20/2015		19832	19832	530	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	5.0 U	0.00E+00	3.92E-03	1126.63	
Pulse-off period November 20, 2015 to January 19, 2016																			
1/19/2016		19841	19841	380	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.03E-03	1126.63	
3/18/2016		21088	21088	420	2.7	1.62E-05	1.1 U	0.00E+00	9.7	6.71E-05	4.1	2.83E-05	11 U	0.00E+00	4.5 U	0.00E+00	1.61E-03	1128.65	
Pulse-off period March 18, 2016 to May 19, 2016																			
5/19/2016	Dup	21092	21092	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.08E-04	1128.65	
5/19/2016		21092	21092	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	1.68E-04	-	
7/22/2016		22610	22610	230	1.2	3.94E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	18	3.73E-05	4.2 U	0.00E+00	4.83E-04	1129.38	
Pulse-off period July 22, 2016 to September 20, 2016																			
9/20/2016*		22611	22611	180	1.2	3.09E-06	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	18	2.92E-05	4.2 U	0.00E+00	3.78E-04	1129.38	
11/28/2016		24162	24162	100	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.4 U	0.00E+00	8.23E-05	1129.51	
Pulse-off period November 28, 2016 to January 24, 2017																			
1/24/2017	Dup	24166	24166	220	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.16E-04	1129.51	
1/24/2017		24166	24166	220	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.36E-04	-	
3/23/2017		25427	25427	190	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.6 U	0.00E+00	3.53E-04	1129.95	

**Notes:**

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (3871000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

\*A sample could not be collected in September 2016 due to insufficient vacuum in the summa can. The sample results from July 22, 2016 are shown (*in italics*) for September 20, 2016 and are used in calculations.

**Table 4.5**  
**Cell 5 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 5 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011	Dup	218	218	360	28000	2.08E-01	100 U	0.00E+00	2400	1.33E-02	100 U	0.00E+00	740	4.00E-03	10000	5.41E-02	100 U	0.00E+00	5900	5.46E-02
3/18/2011		362	362	360	13000	9.68E-02	52 U	0.00E+00	1100	6.08E-03	52 U	0.00E+00	280	1.52E-03	4800	2.60E-02	52 U	0.00E+00	6800	6.29E-02
3/25/2011		459	459	360	8900	6.63E-02	30 U	0.00E+00	650	3.59E-03	30 U	0.00E+00	200	1.08E-03	2600	1.41E-02	30 U	0.00E+00	5400	5.00E-02
3/30/2011		553	553	360	4600	3.43E-02	13 U	0.00E+00	310	1.71E-03	13 U	0.00E+00	100	5.41E-04	1300	7.03E-03	13 U	0.00E+00	4000	3.70E-02
4/8/2011		759	759	360	4600	3.43E-02	20 U	0.00E+00	330	1.82E-03	20 U	0.00E+00	95	5.14E-04	1100	5.95E-03	20 U	0.00E+00	5700	5.28E-02
4/15/2011		920	920	360	4600	3.43E-02	20 U	0.00E+00	370	2.04E-03	20 U	0.00E+00	69	3.73E-04	980	5.30E-03	20 U	0.00E+00	4600	4.26E-02
5/19/2011		1681	1681	330	2800	1.91E-02	12 U	0.00E+00	250	1.27E-03	12 U	0.00E+00	34	1.69E-04	730	3.62E-03	12 U	0.00E+00	7800	6.62E-02
6/16/2011		2187	2187	300	1800	1.12E-02	7.8 U	0.00E+00	170	7.82E-04	7.8 U	0.00E+00	23 J	1.04E-04	520	2.34E-03	7.8 U	0.00E+00	2400	1.85E-02
7/15/2011		2745	2745	220	2400	1.09E-02	7.6 U	0.00E+00	180	6.08E-04	7.6 U	0.00E+00	27	8.93E-05	840	2.78E-03	7.6 U	0.00E+00	2700	1.53E-02
8/22/2011		3129	3129	260	1700	9.14E-03	5.0 U	0.00E+00	150	5.98E-04	5.0 U	0.00E+00	21	8.21E-05	690	2.70E-03	5.0 U	0.00E+00	2000	1.34E-02
9/15/2011		3626	3626	220	1400	6.37E-03	4.5 U	0.00E+00	69	2.33E-04	4.5 U	0.00E+00	22	7.27E-05	380	1.26E-03	4.5 U	0.00E+00	1100	6.22E-03
10/14/2011		4222	4222	220	980	4.46E-03	3.9 U	0.00E+00	57	1.92E-04	3.9 U	0.00E+00	19	6.28E-05	310	1.03E-03	3.9 U	0.00E+00	760	4.30E-03
11/21/2011		5015	5015	200	690	2.85E-03	3.2 U	0.00E+00	55	1.69E-04	3.2 U	0.00E+00	45	1.35E-04	290	8.72E-04	3.2 U	0.00E+00	380	1.95E-03
11/21/2011		5015	5015	200	700	2.90E-03	3.1 U	0.00E+00	57	1.75E-04	3.1 U	0.00E+00	59	1.77E-04	300	9.02E-04	3.1 U	0.00E+00	390	2.01E-03
12/14/2011		5339	5339	200	890	3.68E-03	3.2 U	0.00E+00	62	1.90E-04	3.2 U	0.00E+00	64	1.92E-04	270	8.12E-04	3.2 U	0.00E+00	350	1.80E-03
1/19/2012		5958	5958	0	540	0.00E+00	2.8 U	0.00E+00	17	0.00E+00	2.8 U	0.00E+00	9.9	0.00E+00	69	0.00E+00	2.8 U	0.00E+00	78	0.00E+00
2/15/2012		6364	6364	0	990	0.00E+00	4.1 U	0.00E+00	24	0.00E+00	4.1 U	0.00E+00	100	0.00E+00	230	0.00E+00	4.1 U	0.00E+00	150	0.00E+00
3/15/2012		6942	6942	0	1100	0.00E+00	3.8 U	0.00E+00	43	0.00E+00	3.8 U	0.00E+00	20	0.00E+00	220	0.00E+00	3.8 U	0.00E+00	140	0.00E+00
4/19/2012		7625	7625	80	650	1.08E-03	2.4 U	0.00E+00	28	3.44E-05	2.4 U	0.00E+00	8.1	9.74E-06	130	1.56E-04	2.4 U	0.00E+00	100	2.06E-04
5/16/2012		8138	8138	200	650	2.69E-03	2.0 U	0.00E+00	28	8.59E-05	2.0 U	0.00E+00	8.9	2.68E-05	110	3.31E-04	2.0 U	0.00E+00	130	6.68E-04
Pulse -off period June 1, 2012 to August 14, 2012																				
8/14/2012		8541	8541	360	710	3.23E-03	2.5 U	0.00E+00	44	1.49E-04	2.5 U	0.00E+00	11	3.64E-05	110	3.64E-04	2.5 U	0.00E+00	540	3.05E-03
9/17/2012		9029	9029	360	2000	8.27E-03	8.0 U	0.00E+00	29	8.90E-05	8.0 U	0.00E+00	19	5.71E-05	42	1.26E-04	8.0 U	0.00E+00	190	9.77E-04
Pulse -off period September 17, 2012 to November 15, 2012																				
11/15/2012		9033	9033	220	1200	5.46E-03	4.4 U	0.00E+00	19	6.41E-05	4.4 U	0.00E+00	33	1.09E-04	8	2.65E-05	4.4 U	0.00E+00	55	3.11E-04
12/14/2012		9436	9436	200	1200	4.96E-03	4.8 U	0.00E+00	35	1.07E-04	4.8 U	0.00E+00	16	4.81E-05	37	1.11E-04	4.8 U	0.00E+00	61	3.14E-04
Pulse -off period December 14, 2012 to February 26, 2013																				
2/26/2013		9511	9511	440	70	6.37E-04	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00
4/11/2013		9952	9952	420	1600	1.39E-02	8	6.95E-05	160	1.03E-03	5.1 U	0.00E+00	20	1.26E-04	88	5.56E-04	5.1 U	0.00E+00	320	3.46E-03
Pulse -off period April 11, 2013 to May 10, 2013																				
5/10/2013		9958	9958	420	1200	1.04E-02	5.4 U	0.00E+00												

**Table 4.5**  
**Cell 5 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 5 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
3/11/2011	Dup	218	218	360	1400	1.03E-02	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	100 U	0.00E+00	350	1.80E-03
3/18/2011		362	362	360	1100	8.07E-03	52 U	0.00E+00	52 U	0.00E+00	52 U	0.00E+00	52 U	0.00E+00	210 U	0.00E+00	52 U	0.00E+00	120 JB	6.17E-04
3/25/2011		459	459	360	760	5.57E-03	30 U	0.00E+00	33	1.56E-04	30 U	0.00E+00	30 U	0.00E+00	120 U	0.00E+00	30 U	0.00E+00	73	3.75E-04
3/30/2011		553	553	360	420	3.08E-03	13 U	0.00E+00	13 U	0.00E+00	13 U	0.00E+00	13 U	0.00E+00	51 U	0.00E+00	13 U	0.00E+00	37	1.90E-04
4/8/2011		759	759	360	560	4.11E-03	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	57	2.93E-04
4/15/2011		920	920	360	560	4.11E-03	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	20 U	0.00E+00	81 U	0.00E+00	20 U	0.00E+00	85	4.37E-04
5/19/2011		1681	1681	330	360	2.42E-03	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	47 U	0.00E+00	12 U	0.00E+00	120	5.66E-04
6/16/2011		2187	2187	300	180	1.10E-03	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	12	4.36E-05	7.8 U	0.00E+00
7/15/2011		2745	2745	220	280	1.25E-03	7.6 U	0.00E+00	20	5.79E-05	7.6 U	0.00E+00	7.6 U	0.00E+00	30 U	0.00E+00	7.6 U	0.00E+00	49	1.54E-04
8/22/2011		3129	3129	260	160	8.47E-04	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	5.0 U	0.00E+00	20 U	0.00E+00	7.6	2.39E-05	5.0 U	0.00E+00
9/15/2011		3626	3626	220	83	3.72E-04	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	4.5 U	0.00E+00	18 U	0.00E+00	5	1.33E-05	4.5 U	0.00E+00
10/14/2011		4222	4222	220	50	2.24E-04	3.9 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00	16 U	0.00E+00	3.9 U	0.00E+00	3.9 U	0.00E+00
11/21/2011		5015	5015	200	27	1.10E-04	3.2 U	0.00E+00	32 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
11/21/2011		5015	5015	200	28	1.14E-04	3.1 U	0.00E+00	31 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00	12 U	0.00E+00	3.1 U	0.00E+00	3.1 U	0.00E+00
12/14/2011		5339	5339	200	24	9.78E-05	3.2 U	0.00E+00	32 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	13 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00
1/19/2012		5958	5958	0	10	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00
2/15/2012		6364	6364	0	19	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00
3/15/2012		6942	6942	0	25	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00
4/19/2012		7625	7625	80	19	3.10E-05	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
5/16/2012		8138	8138	200	24	9.78E-05	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00
<b>Pulse -off period June 1, 2012 to August 14, 2012</b>																				
8/14/2012		8541	8541	360	64	2.87E-04	2.5 U	0.00E+00	25 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	9.9 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00
9/17/2012		9029	9029	360	71	2.89E-04	8.0 U	0.00E+00	80 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	32 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00
<b>Pulse -off period September 17, 2012 to November 15, 2012</b>																				
11/15/2012		9033	9033	220	39	1.75E-04	4.4 U	0.00E+00	44 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	18 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00
12/14/2012		9436	9436	200	60	2.44E-04	4.8 U	0.00E+00	48 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	19 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00
<b>Pulse -off period December 14, 2012 to February 26, 2013</b>																				
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	27 U	0.00E+00	12	6.39E-05	6.8 U	0.00E+00
4/11/2013		9952	9952	420	110	9.41E-04	5.1 U	0.00E+00	51 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	20 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00
<b>Pulse -off period April 11, 2013 to May 10, 2013</b>																				
5/10/2013		9958	9958	420	79	6.76E-04	5.4 U	0.00E+00	54 U	0.00E+00	5.4 U</									

**Table 4.5**  
**Cell 5 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 5 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
3/11/2011	Dup	218	218	360	100 U	0.00E+00	100 U	0.00E+00	100 U	0.00E+00	420 U	0.00E+00	420 U	0.00E+00	3.47E-01	75.54
3/18/2011		362	362	360	52 U	0.00E+00	59	3.50E-04	110	6.52E-04	210 U	0.00E+00	210 U	0.00E+00	2.03E-01	104.77
3/25/2011		459	459	360	30 U	0.00E+00	30 U	0.00E+00	47	2.79E-04	130	4.21E-04	120 U	0.00E+00	1.42E-01	118.53
3/30/2011		553	553	360	16	9.48E-05	23	1.36E-04	46	2.73E-04	99	3.21E-04	51 U	0.00E+00	8.47E-02	126.48
4/8/2011		759	759	360	38	2.25E-04	84	4.98E-04	120	7.11E-04	81 U	0.00E+00	81 U	0.00E+00	1.01E-01	147.32
4/15/2011		920	920	360	45	2.67E-04	160	9.48E-04	140	8.30E-04	180 J,B	5.83E-04	81 U	0.00E+00	9.17E-02	162.08
5/19/2011		1681	1681	330	12 U	0.00E+00	12 U	0.00E+00	12 U	0.00E+00	360	1.07E-03	47 U	0.00E+00	9.44E-02	233.92
6/16/2011		2187	2187	300	15	7.41E-05	54	2.67E-04	64	3.16E-04	69 J,B	1.86E-04	31 U	0.00E+00	3.49E-02	251.58
7/15/2011		2745	2745	220	13	4.71E-05	120	4.35E-04	140	5.07E-04	94	1.86E-04	30 U	0.00E+00	3.23E-02	269.61
8/22/2011		3129	3129	260	5.9	2.52E-05	19	8.13E-05	29	1.24E-04	62 J,B	1.45E-04	20 U	0.00E+00	2.71E-02	280.03
9/15/2011		3626	3626	220	4.5 U	0.00E+00	14	5.07E-05	17	6.16E-05	49	9.71E-05	18 U	0.00E+00	1.47E-02	287.36
10/14/2011		4222	4222	220	3.9 U	0.00E+00	7.1	2.57E-05	10	3.62E-05	16 U	0.00E+00	16 U	0.00E+00	1.03E-02	293.51
11/21/2011		5015	5015	200	3.2 U	0.00E+00	4.5	1.48E-05	6.1	2.01E-05	36	6.48E-05	13 U	0.00E+00	6.19E-03	298.43
11/21/2011		5015	5015	200	3.1 U	0.00E+00	4.2	1.38E-05	6.2	2.04E-05	31 U	0.00E+00	12 U	0.00E+00	6.30E-03	298.51
12/14/2011		5339	5339	200	3.2 U	0.00E+00	3.2 U	0.00E+00	3.2 U	0.00E+00	32 UJ	0.00E+00	13 U	0.00E+00	6.77E-03	300.62
1/19/2012		5958	5958	0	2.8 U	0.00E+00	2.8 U	0.00E+00	2.8 U	0.00E+00	11 U	0.00E+00	11 U	0.00E+00	0.00E+00	300.62
2/15/2012		6364	6364	0	4.1 U	0.00E+00	4.1 U	0.00E+00	4.1 U	0.00E+00	16 U	0.00E+00	16 U	0.00E+00	0.00E+00	300.62
3/15/2012		6942	6942	0	3.8 U	0.00E+00	3.8 U	0.00E+00	3.8 U	0.00E+00	15 U	0.00E+00	15 U	0.00E+00	0.00E+00	300.62
4/19/2012		7625	7625	80	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.4 U	0.00E+00	9.4 U	0.00E+00	1.51E-03	301.65
5/16/2012		8138	8138	200	2.0 U	0.00E+00	2.0 U	0.00E+00	2.0 U	0.00E+00	7.9 U	0.00E+00	7.9 U	0.00E+00	3.90E-03	303.65
Pulse -off period June 1, 2012 to August 14, 2012																
8/14/2012		8541	8541	360	2.5 U	0.00E+00	2.5 U	0.00E+00	2.5 U	0.00E+00	25 U	0.00E+00	9.9 U	0.00E+00	7.12E-03	306.52
9/17/2012		9029	9029	360	8.0 U	0.00E+00	8.0 U	0.00E+00	8.0 U	0.00E+00	80 U	0.00E+00	32 U	0.00E+00	9.81E-03	311.31
Pulse -off period September 17, 2012 to November 15, 2012																
11/15/2012		9033	9033	220	4.4 U	0.00E+00	4.4 U	0.00E+00	4.4 U	0.00E+00	44 U	0.00E+00	18 U	0.00E+00	6.15E-03	311.34
12/14/2012		9436	9436	200	4.8 U	0.00E+00	4.8 U	0.00E+00	4.8 U	0.00E+00	48 U	0.00E+00	19 U	0.00E+00	5.79E-03	313.67
Pulse -off period December 14, 2012 to February 26, 2013																
2/26/2013		9511	9511	440	6.8 U	0.00E+00	6.8 U	0.00E+00	6.8 U	0.00E+00	68 U	0.00E+00	27 U	0.00E+00	7.01E-04	313.72
4/11/2013		9952	9952	420	5.1 U	0.00E+00	5.1 U	0.00E+00	5.1 U	0.00E+00	51 U	0.00E+00	20 U	0.00E+00	2.01E-02	322.58
Pulse -off period April 11, 2013 to May 10, 2013																
5/10/2013		9958	9958	420	5.4 U	0.00E+00	5.4 U	0.00E+00	5.4 U	0.00E+00	54 U	0.00E+00	22 U	0.00E+00	1.44E-02	322.66
7/15/2013		10984	10984	360	4.7 U	0.00E+00	4.7 U	0.00E+00	4.7 U	0.00E+00	47 U	0.00E+00	19 U	0.00E+00	1.65E-02	339.59
Pulse -off period July 15, 2013 to September 9, 2013																
9/9/2013		10991	10991	380	4 U	0.00E+00	4 U	0.00E+00	4 U	0.00E+00	40 U	0.00E+00	40 U	0.00E+00	8.81E-03	339.65
11/18/2013		12069	12069	380	7.6 U	0.00E+00	7.6 U	0.00E+00	7.6 U	0.00E+00	76 U	0.00E+00	31 U	0.00E+00	1.58E-02	356.69

**Table 4.5**  
**Cell 5 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 5 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	1,1,1-Trichloroethane		1,1,2-Trichloroethane		1,1-Dichloroethane		1,2-Dichloroethane		1,1-Dichloroethene		cis-1,2-Dichloroethene		trans-1,2-Dichloroethene		Tetrachloroethene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
<b>Pulse-off period November 18, 2013 to January 15, 2014</b>																				
1/15/2014		12074	12074	380	950	7.47E-03	3.5 U	0.00E+00	24	1.40E-04	3.5 U	0.00E+00	10	5.71E-05	23	1.31E-04	3.5 U	0.00E+00	82	8.01E-04
3/14/2014		13057	13057	380	1400	1.10E-02	7.8 U	0.00E+00	32	1.87E-04	7.8 U	0.00E+00	24	1.37E-04	88	5.03E-04	7.8 U	0.00E+00	30	2.93E-04
<b>Pulse-off period March 14, 2014 to May 15, 2014</b>																				
5/15/2014		13063	13063	300	1000	6.20E-03	3.0 U	0.00E+00	20	9.21E-05	3.0 U	0.00E+00	14	6.31E-05	65	2.93E-04	3.0 U	0.00E+00	71	5.48E-04
7/23/2014		14714	14714	100	670	1.39E-03	2.2 U	0.00E+00	19	2.92E-05	2.2 U	0.00E+00	9.6	1.44E-05	12	1.80E-05	2.2 U	0.00E+00	47	1.21E-04
<b>Pulse-off period July 23, 2014 to September 16, 2014</b>																				
9/16/2014		14721	14715	120	470	1.17E-03	2.3 U	0.00E+00	10	1.84E-05	2.3 U	0.00E+00	4.8	8.66E-06	6.9	1.24E-05	2.3 U	0.00E+00	79	2.44E-04
11/14/2014		16095	16095	290	660	3.96E-03	2.4 U	0.00E+00	15	6.67E-05	2.4 U	0.00E+00	8.5	3.70E-05	19	8.28E-05	2.4 U	0.00E+00	32	2.39E-04
<b>Pulse-off period November 14, 2014 to January 9, 2015</b>																				
1/9/2015		16102	16102	180	360	1.34E-03	1.1 U	0.00E+00	4.6	1.27E-05	1.1 U	0.00E+00	4.0	1.08E-05	7.2	1.95E-05	1.1 U	0.00E+00	12	5.55E-05
3/13/2015		17322	17322	260	660	3.55E-03	2.4 U	0.00E+00	22	8.78E-05	2.4 U	0.00E+00	8.0	3.13E-05	16	6.25E-05	2.4 U	0.00E+00	29	1.94E-04
<b>Pulse-off period March 13, 2015 to May 15, 2015</b>																				
5/15/2015		17329	17329	260	360	1.94E-03	1.1 U	0.00E+00	7.3	2.91E-05	1.1 U	0.00E+00	2.5	9.77E-06	5.9	2.31E-05	1.1 U	0.00E+00	31	2.07E-04
7/16/2015		18578	18578	180	260	9.68E-04	1.2 U	0.00E+00	22	6.08E-05	1.2 U	0.00E+00	3.5	9.47E-06	12	3.25E-05	1.2 U	0.00E+00	54	2.50E-04
<b>Pulse-off period July 16, 2015 to September 22, 2015</b>																				
9/22/2015		18580	18580	160	150	4.96E-04	1.2 U	0.00E+00	4.2	1.03E-05	1.2 U	0.00E+00	1.2	2.89E-06	2.4	5.77E-06	1.2 U	0.00E+00	47	1.93E-04
11/20/2015		19973	19973	230	320	1.52E-03	1.2 U	0.00E+00	26	9.17E-05	1.2 U	0.00E+00	5.5	1.90E-05	13	4.49E-05	1.2 U	0.00E+00	50	2.96E-04
<b>Pulse-off period November 20, 2015 to January 19, 2016</b>																				
1/19/2016		19982	19982	180	78	2.90E-04	1.1 U	0.00E+00	1.9	5.25E-06	1.1 U	0.00E+00	1.1 U	0.00E+00	1.3	3.52E-06	1.1 U	0.00E+00	10	4.63E-05
3/18/2016		21229	21229	260	340	1.83E-03	1.1 U	0.00E+00	21	8.38E-05	1.1 U	0.00E+00	5.4	2.11E-05	11	4.30E-05	1.1 U	0.00E+00	30	2.01E-04
<b>Pulse-off period March 18, 2016 to May 19, 2016</b>																				
5/19/2016		21233	21233	140	100	2.90E-04	1.2 U	0.00E+00	2.9	6.23E-06	1.2 U	0.00E+00	1.4	2.95E-06	2.2	4.63E-06	1.2 U	0.00E+00	9.3	3.35E-05
7/22/2016		22751	22751	180	340	1.27E-03	1.0 U	0.00E+00	13	3.59E-05	1.0 U	0.00E+00	5.2	1.41E-05	8.5	2.30E-05	1.0 U	0.00E+00	40	1.85E-04
<b>Pulse-off period July 22, 2016 to September 20, 2016</b>																				
9/20/2016		22752	22752	180	160	5.96E-04	1.2 U	0.00E+00	3.4	9.39E-06	1.2 U	0.00E+00	1.8	4.87E-06	2.6	7.03E-06	1.2 U	0.00E+00	41	1.90E-04
11/28/2016		24305	24305	220	330	1.50E-03	1.2 U	0.00E+00	10	3.38E-05	1.2 U	0.00E+00	5.1	1.69E-05	8.3	2.74E-05	1.2 U	0.00E+00	13	7.35E-05
<b>Pulse-off period November 28, 2016 to January 24, 2017</b>																				
1/24/2017		24309	24309	190	52	2.04E-04	1.2 U	0.00E+00	1.4	4.08E-06	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/23/2017		25572	25572	90	440	8.19E-04	2.4 U	0.00E+00	8.6	1.19E-05	2.4 U	0.00E+00	3.7	5.00E-06	9	1.22E-05	2.4 U	0.00E+00	9	2.08E-05

**Notes:**

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387\*10000

**Table 4.5**  
**Cell 5 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 5 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Trichloroethene		Vinyl chloride		Methylene Chloride		Carbon Tetrachloride		Chloroform		Chloroethane		Benzene		Toluene	
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)
<b>Pulse -off period November 18, 2013 to January 15, 2014</b>																				
1/15/2014		12074	12074	380	37	2.86E-04	3.5 U	0.00E+00	35 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	14 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00
3/14/2014		13057	13057	380	41	3.17E-04	7.8 U	0.00E+00	78 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	31 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																				
5/15/2014		13063	13063	300	33	2.02E-04	3.0 U	0.00E+00	30 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	12 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00
7/23/2014		14714	14714	100	14	2.85E-05	2.2 U	0.00E+00	22 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	9.0 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																				
9/16/2014		14721	14715	120	22	5.38E-05	2.3 U	0.00E+00	23 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	9.4 U	0.00E+00	6.4	9.30E-06	2.3 U	0.00E+00
11/14/2014		16095	16095	290	11	6.50E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.7 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																				
1/9/2015		16102	16102	180	4.9	1.80E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.6 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/13/2015		17322	17322	260	12	6.36E-05	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																				
5/15/2015		17329	17329	260	8.2	4.34E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.5 U	0.00E+00	1.1 U	0.00E+00	1.4	5.20E-06
7/16/2015		18578	18578	180	14	5.13E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																				
9/22/2015		18580	18580	160	11	3.59E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/20/2015		19973	19973	230	11	5.15E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																				
1/19/2016		19982	19982	180	2	7.33E-06	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
3/18/2016		21229	21229	260	8.5	4.50E-05	1.1 U	0.00E+00	11 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	4.3 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																				
5/19/2016		21233	21233	140	2.1	5.99E-06	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
7/22/2016		22751	22751	180	9.3	3.41E-05	1.0 U	0.00E+00	10 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	4.1 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00
<b>Pulse -off period July 22, 2016 to September 20, 2016</b>																				
9/20/2016		22752	22752	180	10	3.67E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
11/28/2016		24305	24305	220	4.7	2.11E-05	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.7 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
<b>Pulse -off period November 28, 2016 to January 24, 2017</b>																				
1/24/2017		24309	24309	190	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	4.9 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00
3/23/2017		25572	25572	90	4.6	8.43E-06	2.4 U	0.00E+00	24 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	9.5 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00

**Notes:**

Mass removal rate = (flow

**Table 4.5**  
**Cell 5 - Phase 2 SVE System Effluent Data**  
**March 2011 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

**CELL 5 SVE EFFLUENT**

Date	Sample Type	SVE Run Time (hr)	Cell 5 Run Time (hr)	SVE Flow Rate (scfm)	Ethylbenzene		m&p-Xylenes		o-Xylenes		Acetone		Methyl Ethyl Ketone (MEK)		Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)
					Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)	Conc (ppbv)	Mass Removal Rate (lb/hr)		
<b>Pulse -off period November 18, 2013 to January 15, 2014</b>																
1/15/2014		12074	12074	380	3.5 U	0.00E+00	3.5 U	0.00E+00	3.5 U	0.00E+00	35 U	0.00E+00	14 U	0.00E+00	8.88E-03	356.73
3/14/2014		13057	13057	380	7.8 U	0.00E+00	7.8 U	0.00E+00	7.8 U	0.00E+00	78 U	0.00E+00	31 U	0.00E+00	1.24E-02	368.96
<b>Pulse -off period March 14, 2014 to May 15, 2014</b>																
5/15/2014		13063	13063	300	3.0 U	0.00E+00	3.0 U	0.00E+00	3.0 U	0.00E+00	30 U	0.00E+00	12 U	0.00E+00	7.40E-03	369.01
7/23/2014		14714	14714	100	2.2 U	0.00E+00	2.2 U	0.00E+00	2.2 U	0.00E+00	22 U	0.00E+00	9.0 U	0.00E+00	1.60E-03	371.61
<b>Pulse -off period July 23, 2014 to September 16, 2014</b>																
9/16/2014		14721	14715	120	2.3 U	0.00E+00	2.3 U	0.00E+00	2.3 U	0.00E+00	32	3.46E-05	9.4 U	0.00E+00	1.55E-03	371.61
11/14/2014		16095	16095	290	2.4 U	0.00E+00	2.4 U	0.00E+00	2.8	1.34E-05	24 U	0.00E+00	9.7 U	0.00E+00	4.46E-03	377.77
<b>Pulse -off period November 14, 2014 to January 9, 2015</b>																
1/9/2015		16102	16102	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.6 U	0.00E+00	1.46E-03	377.78
3/13/2015		17322	17322	260	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	3.99E-03	382.64
<b>Pulse -off period March 13, 2015 to May 15, 2015</b>																
5/15/2015		17329	17329	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.5 U	0.00E+00	2.25E-03	382.66
7/16/2015		18578	18578	180	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.37E-03	384.37
<b>Pulse -off period July 16, 2015 to September 22, 2015</b>																
9/22/2015		18580	18580	160	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	7.45E-04	384.37
11/20/2015		19973	19973	230	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	2.03E-03	387.19
<b>Pulse -off period November 20, 2015 to January 19, 2016</b>																
1/19/2016		19982	19982	180	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	3.53E-04	387.20
3/18/2016		21229	21229	260	1.1 U	0.00E+00	1.1 U	0.00E+00	1.1 U	0.00E+00	11 U	0.00E+00	4.3 U	0.00E+00	2.22E-03	389.97
<b>Pulse -off period March 18, 2016 to May 19, 2016</b>																
5/19/2016		21233	21233	140	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	3.43E-04	389.97
7/22/2016		22751	22751	180	1.0 U	0.00E+00	1.0 U	0.00E+00	1.0 U	0.00E+00	10 U	0.00E+00	4.0 J	0.00E+00	1.56E-03	392.33
<b>Pulse -off period July 22, 2016 to September 20, 2016</b>																
9/20/2016		22752	22752	180	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	8.43E-04	392.33
11/28/2016		24305	24305	220	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.7 U	0.00E+00	1.67E-03	394.93
<b>Pulse -off period November 28, 2016 to January 24, 2017</b>																
1/24/2017		24309	24309	190	1.2 U	0.00E+00	1.2 U	0.00E+00	1.2 U	0.00E+00	12 U	0.00E+00	4.9 U	0.00E+00	2.08E-04	394.94
3/23/2017		25572	25572	90	2.4 U	0.00E+00	2.4 U	0.00E+00	2.4 U	0.00E+00	24 U	0.00E+00	9.5 U	0.00E+00	8.77E-04	396.04

**Notes:**

Mass removal rate = (flow rate in scfm)(concentration in ppmv)(60)(MW) / (387\*1000000)

"U" indicates non-detection at the specified reporting limit; for ND compounds, zero is used in mass removal calculations.

MW molecular weight (values from the U.S. National Library of Medicine)

SCFM standard cubic feet per minute

J Indicates estimated value.

B The analyte was detected in the method, field and/or trip blank.

When a duplicate sample was collected, the original sample results are used in the mass calculations.

**Table 4.6**  
**Mass Removal - Phase 1 and Phase 2 AS/SVE Systems**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
12/3/2009	0															0.00
12/10/2009	53	0.22	11.91													11.91
12/11/2009				59	0.25	15.05										26.97
12/14/2009							60	0.31	18.51							45.48
12/15/2009				68	0.16	16.48										46.91
12/16/2009							76	0.17	21.16							49.55
12/22/2009	124	0.05	15.23													52.86
12/29/2009				180	0.12	29.76										66.15
1/5/2010							236	0.13	41.78							86.77
1/13/2010				301	0.05	35.75										92.75
1/21/2010							361	0.05	48.37							99.35
1/27/2010				408	0.06	42.68										106.27
2/24/2010	631	0.01	20.06	631	0.04	51.44	631	0.04	58.76							130.26
3/15/2010	782	0.01	22.02	782	0.09	64.40	782	0.07	68.60							155.02
4/14/2010	935	0.02	25.22	935	0.04	70.89	935	0.11	84.81							180.92
5/13/2010	1165	0.01	27.75	1165	0.04	79.74	1165	0.03	91.21							198.69
6/21/2010	1477	0.01	30.20	1477	0.02	86.90	1477	0.02	96.92							214.02
7/21/2010	1686	0.01	32.52	1686	0.02	91.24	1686	0.02	101.05							224.81
8/23/2010	1928	0.00	32.52	1928	0.00	91.24	1928	0.00	101.05							224.81
9/23/2010	2174	0.01	34.49	2174	0.02	96.27	2174	0.02	106.49							237.25
10/22/2010	2406	0.01	35.86	2406	0.01	98.85	2406	0.01	109.27							243.98
11/15/2010	2598	0.01	36.96	2598	0.01	101.41	2598	0.01	112.05							250.42
12/22/2010	2777	0.01	38.22	2955	0.02	107.99	2777	0.02	115.44							261.65
1/24/2011	2975	0.01	39.47	3352	0.01	110.39	2975	0.01	117.20							267.06
2/25/2011	3167	0.01	40.53	3737	0.01	114.08	3167	0.00	118.15							272.76
3/11/2011										222	1.72	381.87	218	0.35	75.54	730.17
3/18/2011	3293	0.01	41.27	3988	0.00	114.57	3293	0.00	118.34	366	0.51	453.50	362	0.20	104.77	832.46
3/25/2011										463	0.29	482.07	459	0.14	118.53	874.78
3/30/2011										558	0.32	512.25	553	0.08	126.48	912.92
4/8/2011										764	0.29	572.27	759	0.10	147.32	993.77
4/15/2011	3460	0.01	42.15	4322	0.00	115.07	3460	0.00	118.47	924	0.24	610.05	920	0.09	162.08	1047.81
5/19/2011	3665	0.00	42.87	4732	0.00	115.31	3665	0.00	118.53	1685	0.16	730.28	1681	0.09	233.92	1240.92
6/16/2011	3830	0.00	43.39	5062	0.00	115.55	3830	0.00	118.81	2191	0.11	753.86	2187	0.03	251.58	1283.20
7/15/2011	4472	0.00	44.96	4472	0.00	115.18	4472	0.00	119.39	2750	0.08	830.85	2745	0.03	269.61	1380.36
8/22/2011	4775	0.00	45.59	4775	0.00	115.40	4775	0.01	121.30	3133	0.10	868.97	3129	0.03	280.03	1431.44
9/15/2011	4968	0.00	45.93	4968	0.00	115.51	4968	0.00	121.91	3630	0.08	906.88	3626	0.01	287.36	1477.64
10/14/2011	5199	0.00	46.20	5199	0.00	115.57	5199	0.00	122.54	4226	0.05	935.35	4222	0.01	293.51	1513.18
11/21/2011	5503	0.00	46.43	5503	0.00	115.62	5503	0.00	123.00	5019	0.04	966.50	5015	0.01	298.43	1549.98
12/14/2011	5670	0.00	46.53	5670	0.00	115.65	5670	0.00	123.67	5343	0.03	975.34	5339	0.01	300.62	1561.80
1/19/2012	5974	0.00	46.69	5974	0.00	115.71	5974	0.00	124.59	5993	0.00	975.34	5958	0.00	300.62	1562.94
2/15/2012	6189	0.00	46.80	6189	0.00	115.74	6189	0.01	126.03	6368	0.03	986.48	6364	0.00	300.62	1575.67
3/15/2012	6421	0.00	46.89	6421	0.00	115.79	6421	0.01	127.43	6946	0.03	1005.89	6942	0.00	300.62	1596.62
4/19/2012	6701	0.00	47.04	6701	0.00	115.84	6701	0.00	128.02	7629	0.05	1038.74	7625	0.00	301.65	1631.30
5/16/2012	6916	0.00	47.18	6916	0.00	115.88	6916	0.00	128.27	8143	0.04	1060.30	8138	0.00	303.65	1655.28

**Table 4.6**  
**Mass Removal - Phase 1 and Phase 2 AS/SVE Systems**  
**December 2009 - March 2017**  
**Hamilton Sundstrand Corporation**  
**Plants 1/2 Facility**  
**Rockford, Illinois**

Date	Cell 1			Cell 2			Cell 3			Cell 4			Cell 5			Total Cumulative Mass Removal (lb)
	Total Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	Run Time (hr)	Mass Removal Rate (lb/hr)	Cumulative Mass Removal (lb)	
<b>Pulse-off period June 1, 2012 to August 14, 2012</b>																
8/14/2012	7094	0.00	47.54	7094	0.00	116.20	7094	0.00	129.03	8546	0.05	1081.05	8541	0.01	306.52	1680.34
9/17/2012	7317	0.00	47.99	7317	0.00	116.40	7317	0.02	133.04	9033	0.04	1102.58	9029	0.01	311.31	1711.33
<b>Pulse-off period September 17, 2012 to November 14, 2012</b>																
11/15/2012	7320	0.00	48.00	7320	0.00	116.40	7320	0.00	133.05	9037	0.05	1102.78	9033	0.01	311.34	1711.56
12/14/2012	7518	0.00	48.24	7518	0.00	116.86	7518	0.00	133.94	9439	0.00	1103.57	9436	0.01	313.67	1716.27
<b>Pulse-off period December 14, 2012 to February 26, 2013</b>																
2/26/2013	7518	0.00	48.19	7518	0.00	116.86	7519	0.00	133.94	9439	0.00	1103.57	9511	0.00	313.72	1716.32
4/11/2013	7723	0.00	48.32	7723	0.00	116.97	8134	0.00	134.40	9876	0.00	1105.48	9952	0.02	322.58	1727.74
<b>Pulse-off period April 11, 2013 to May 10, 2013</b>																
5/10/2013	7724	0.00	48.32	7724	0.00	116.97	8135	0.00	134.40	9882	0.00	1105.50	9958	0.01	322.66	1727.85
7/15/2013	8039	0.00	48.86	8039	0.00	117.21	9082	0.00	134.70	10907	0.00	1108.40	10984	0.02	339.59	1748.76
<b>Pulse-off period July 15, 2013 to September 9, 2013</b>																
9/9/2013	8040	0.00	48.86	8040	0.00	117.21	9083	0.00	134.70	10914	0.00	1108.44	10991	0.01	339.65	1748.86
11/18/2013	8372	0.00	49.15	8372	0.00	117.30	10081	0.00	136.08	11992	0.00	1110.90	12069	0.02	356.69	1770.12
<b>Pulse-off period November 18, 2013 to January 15, 2014</b>																
1/15/2014	8651	0.00	49.36	8651	0.00	117.51	10916	0.00	136.88	11997	0.00	1110.91	12074	0.01	356.73	1771.39
3/14/2014	8894	0.00	49.48	8894	0.00	117.52	11645	0.00	137.13	12980	0.00	1112.65	13057	0.01	368.96	1785.75
<b>Pulse-off period March 14, 2014 to May 15, 2014</b>																
5/15/2014	8990	0.00	49.54	8990	0.00	117.64	11934	0.00	137.98	12986	0.00	1112.67	13063	0.01	369.01	1786.83
7/23/2014	9321	0.00	50.01	9321	0.00	117.79	12926	0.00	138.52	14627	0.00	1113.02	14714	0.00	371.61	1790.95
<b>Pulse-off period July 23, 2014 to September 16, 2014</b>																
9/16/2014	9494	0.00	50.32	9494	0.00	118.05	13445	0.00	139.28	14628	0.00	1113.03	14715	0.00	371.61	1792.29
11/14/2014	9777	0.00	50.45	9777	0.00	118.12	14294	0.00	139.95	16008	0.00	1116.04	16095	0.00	377.77	1802.33
<b>Pulse-off period November 14, 2014 to January 9, 2015</b>																
1/9/2015	9778	0.00	50.45	9778	0.00	118.12	14299	0.00	139.96	16015	0.00	1116.05	16102	0.00	377.78	1802.36
3/13/2015	10045	0.00	50.56	10045	0.00	118.15	15099	0.00	140.58	17178	0.00	1117.32	17322	0.00	382.64	1809.25
<b>Pulse-off period March 13, 2015 to May 15, 2015</b>																
5/15/2015	10046	0.00	50.56	10046	0.00	118.15	15102	0.00	140.58	17186	0.00	1117.34	17329	0.00	382.66	1809.28
7/16/2015	10343	0.00	50.92	10343	0.00	118.25	15992	0.00	141.23	18436	0.00	1121.16	18578	0.00	384.37	1815.93
<b>Pulse-off period July 16, 2015 to September 22, 2015</b>																
9/22/2015	10343	0.00	50.92	10343	0.00	118.26	15994	0.00	141.24	18439	0.00	1121.16	18580	0.00	384.37	1815.95
11/20/2015	10626	0.00	51.03	10626	0.00	118.33	16842	0.00	141.50	19832	0.00	1126.63	19973	0.00	387.19	1824.68
<b>Pulse-off period November 20, 2015 to January 19, 2016</b>																
1/19/2016	10627	0.00	51.03	10627	0.00	118.33	16846	0.00	141.50	19841	0.00	1126.63	19982	0.00	387.20	1824.70
3/18/2016	10883	0.00	51.14	10883	0.00	118.36	17612	0.00	141.72	21088	0.00	1128.65	21229	0.00	389.97	1829.83
<b>Pulse-off period March 18, 2016 to May 19, 2016</b>																
5/19/2016	10884	0.00	51.14	10884	0.00	118.36	17615	0.00	141.72	21092	0.00	1128.65	21233	0.00	389.97	1829.84
7/22/2016	11190	0.00</td														

## **Figures**



**AECOM**

AECOM  
4320 WINFIELD ROAD  
WARRENVILLE, ILLINOIS 60555  
PHONE: (630) 829-2464  
FAX: (630) 657-6305  
WEB: [HTTP://WWW.AECOM.COM](http://WWW.AECOM.COM)

**Facility Location Map**  
Area 9/10 Remedial Action  
Southeast Rockford Groundwater  
Contamination Superfund Site  
Rockford, IL

FIGURE NUMBER
1







#### LEGEND:

- GMZ Monitoring Well
- Site and GMZ Boundary

#### NOTES:

1. Values are listed only for those wells in which a Volatile Organic Compound (VOC) was identified above the Preliminary Remediation Goal (PRG) for the previous four events.

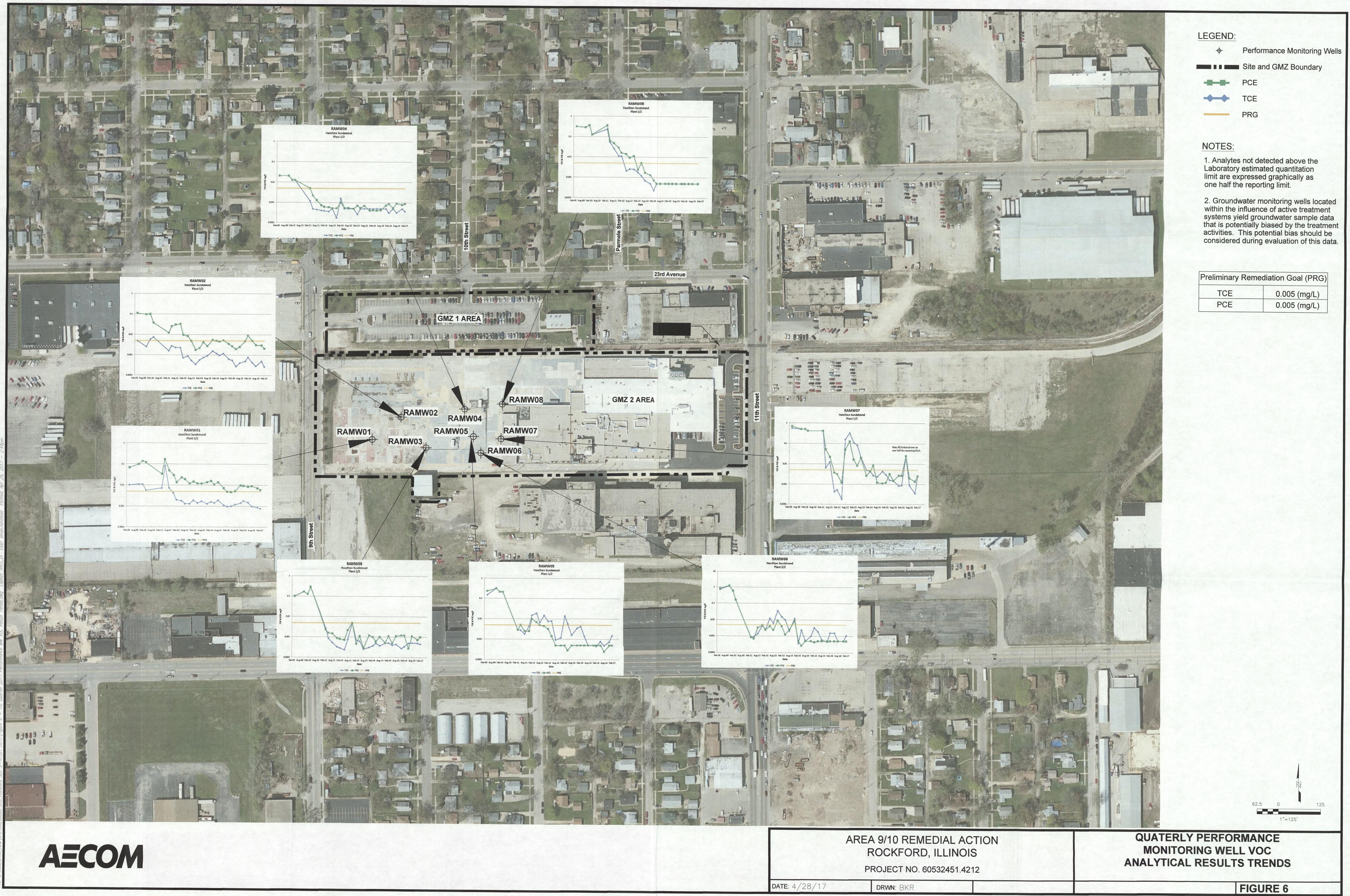
2. mg/L milligrams per liter

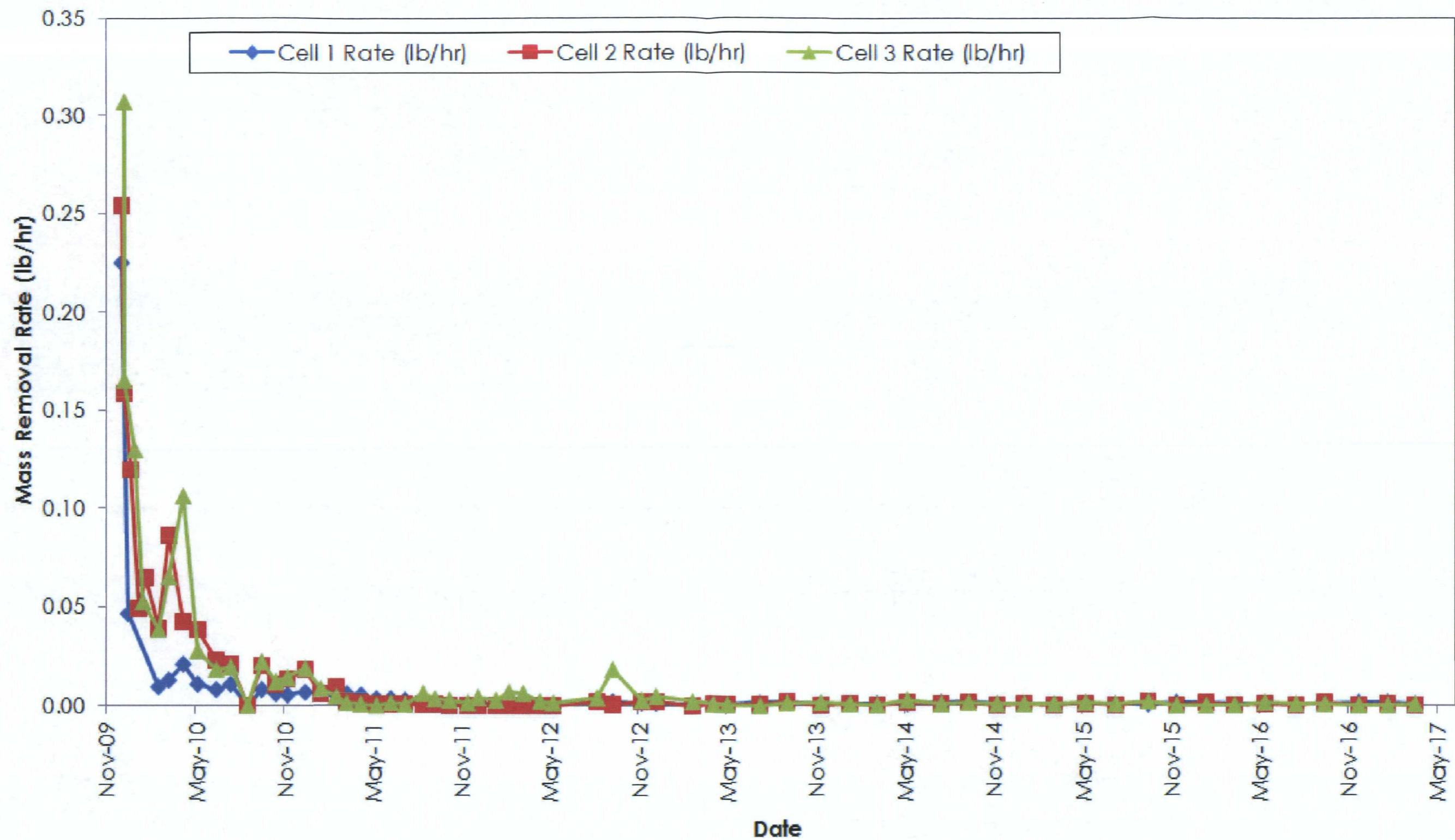
Preliminary Remediation Goals (PRG)	
Trichloroethene (TCE)	0.005 mg/L
cis-1,2-Dichloroethene (DCE)	0.07 mg/L
1,1,1-Trichloroethane (TCA)	0.2 mg/L
Tetrachloroethene (PCE)	0.005 mg/L
Vinyl chloride	0.002 mg/L

AREA 9/10 REMEDIAL ACTION  
ROCKFORD, ILLINOIS  
PROJECT NO. 605232451.4212

FIRST QUARTER 2017 ROLLING  
12 MONTH GMZ WELL GROUNDWATER  
ANALYTICAL RESULTS EXCEEDING THE PRG







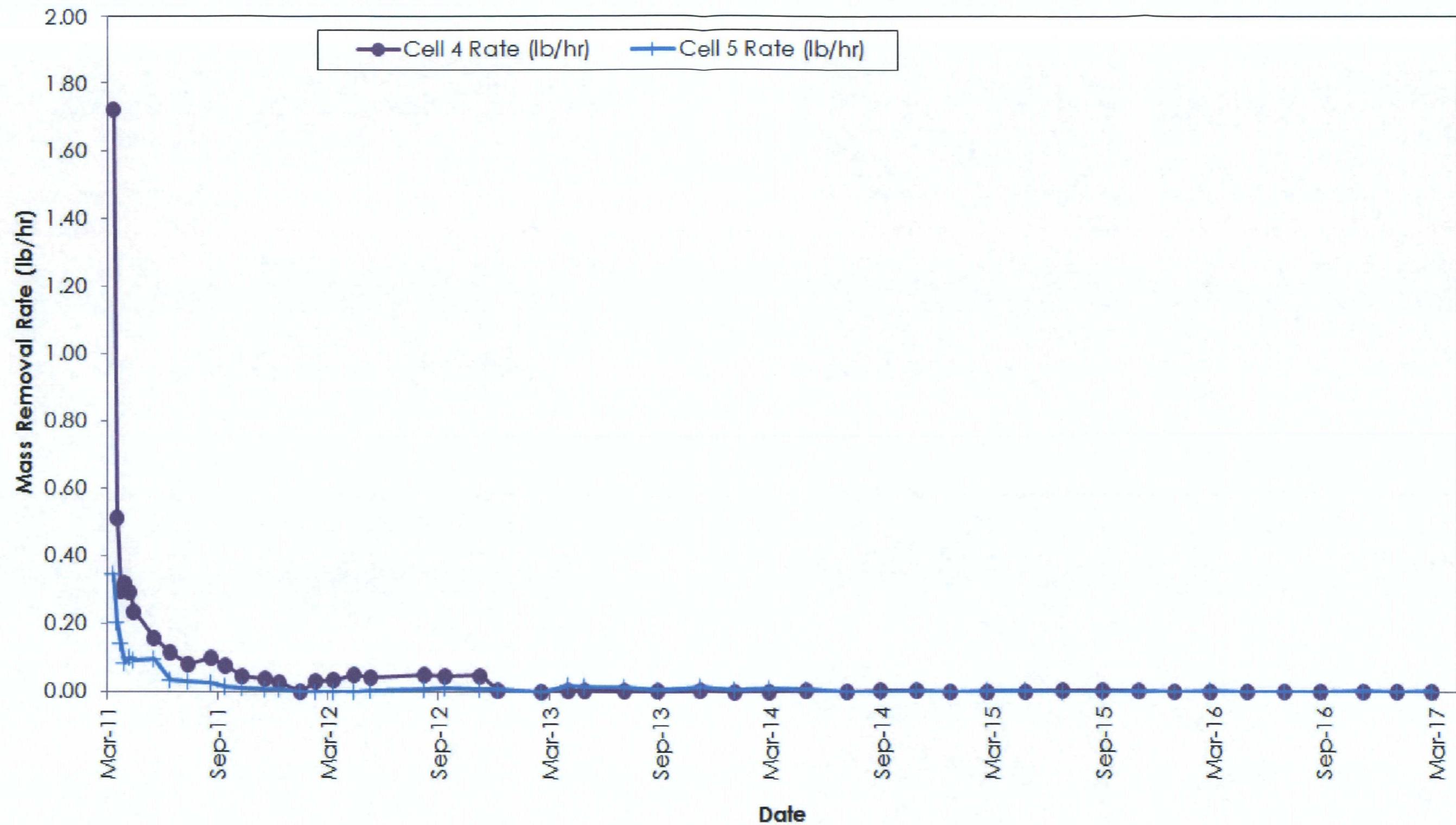
AREA 9/10 REMEDIAL ACTION  
ROCKFORD, ILLINOIS  
PROJECT NO. 60532451.4212

DATE: 04/28/17

DRWN: BKR

AVERAGE VOC MASS REMOVAL RATE  
VS TIME PHASE 1 AS/SVE SYSTEM

FIGURE 7



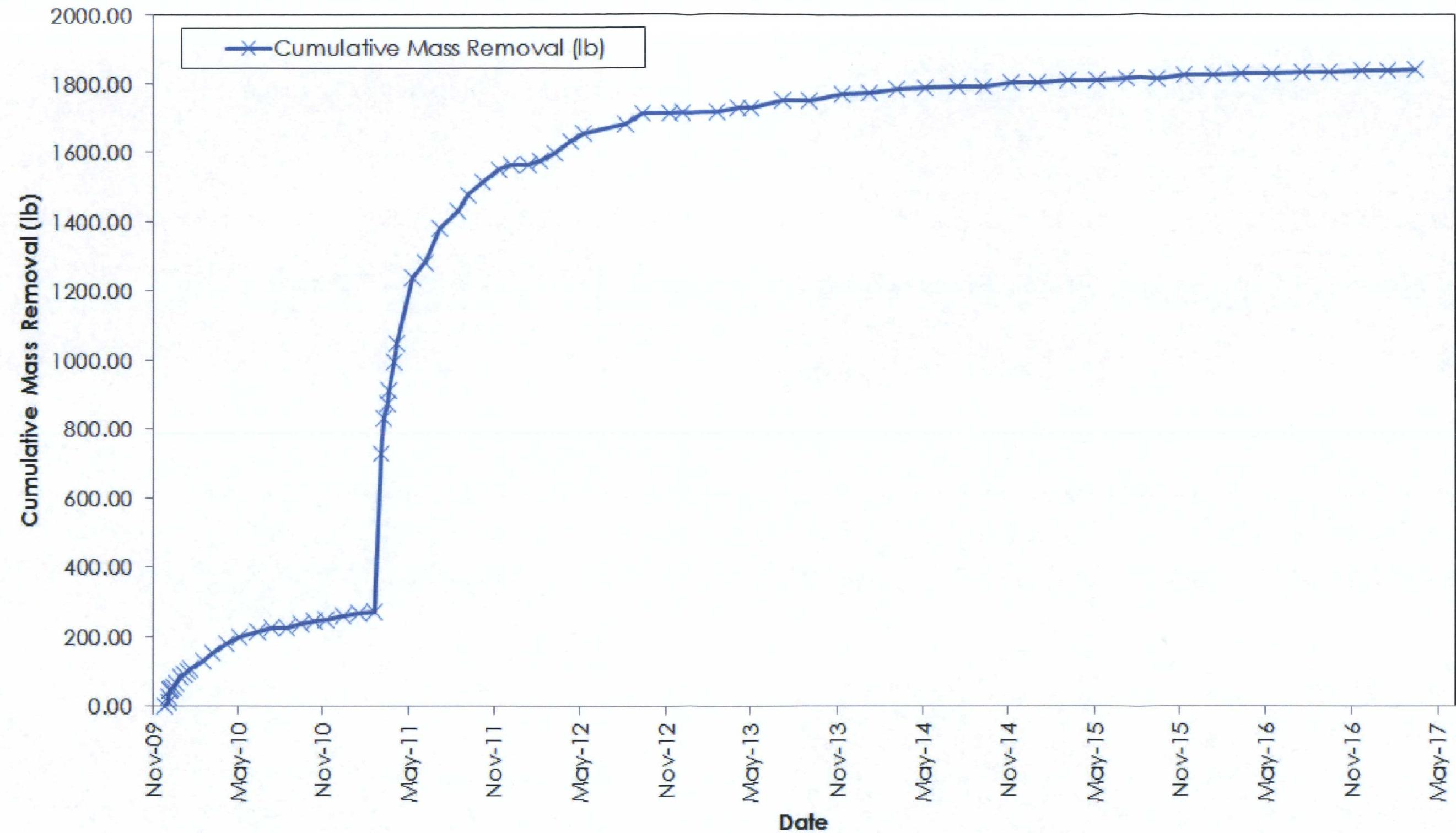
**AECOM**

AREA 9/10 REMEDIAL ACTION  
ROCKFORD, ILLINOIS  
PROJECT NO. 60532451.4212

AVERAGE VOC MASS REMOVAL RATE  
VS TIME PHASE 2 AS/SVE SYSTEM

DATE: 04/28/17 DRWN: BKR

FIGURE 8



AREA 9/10 REMEDIAL ACTION  
ROCKFORD, ILLINOIS  
PROJECT NO. 60532451.4212

CUMULATIVE MASS REMOVAL  
PHASE 1/ PHASE 2 AS/SVE SYSTEM

DATE: 04/28/17

DRWN: BKR

FIGURE 9

## **Appendix A**

### **First Quarter 2017 GMZ and Performance Monitoring Well Analytical Data**



**ACCUTEST**  
New Jersey

Reissue #1  
02/28/17

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VERIFICATION, TESTING AND CERTIFICATION COMPANY.



*e-Hardcopy 2.0*  
*Automated Report*

**Technical Report for**

**United Technologies Corporation**

**ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL**  
**60532451**

**SGS Accutest Job Number: JC37024**

**Sampling Dates: 02/06/17 - 02/08/17**

**Report to:**

AECOM, INC.  
4320 Winfield Road  
Warrenville, IL 60555  
peter.hollatz@ecom.com

ATTN: Peter Hollatz

**Total number of pages in report: 248**



Test results contained within this data package meet the requirements  
of the National Environmental Laboratory Accreditation Program  
and/or state specific certification programs as applicable.

*Nancy T. Cole*

**Nancy Cole**  
Laboratory Director

**Client Service contact: Kelly Patterson 732-329-0200**

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC,  
OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

This report shall not be reproduced, except in its entirety, without the written approval of SGS Accutest.  
Test results relate only to samples analyzed.



ACCUTEST

February 28, 2017

Mr. Peter Hollatz  
AECOM, INC.  
4320 Winfield Road  
Warrenville, IL 60555

Re: SGS Accutest –Dayton, Jobs # JC37024 – Reissues

Dear Mr. Hollatz,

The final report for SGS Accutest job number JC37024 has edited to reflect corrections to the data package. These edits have been incorporated into the revised report attached.

Specifically, samples ID for JC37024-3 thru -8 (-8D, -8S), -10, -11, and -12 have been revised to match chain of custody. This information has been retrieved and is included in this revised report.

SGS Accutest apologizes for this occurrence and for any inconvenience this situation may have caused. Please contact client services at (732) 329-0200 if I can be of further assistance in this matter.

Sincerely,

*Kelly Ramos*

**Kelly Ramos**  
*SGS Accutest*

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TESTING AND CERTIFICATION COMPANY.

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## Sample Summary

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
Project No: 60532451

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
JC37024-1	02/06/17	13:10 AH	02/10/17	AQ Ground Water	HSSER-RAMW08-020617
JC37024-2	02/06/17	14:50 AH	02/10/17	AQ Ground Water	HSSER-RAMW07-020617
JC37024-3	02/07/17	09:25 AH	02/10/17	AQ Ground Water	HSSER-RAMW06-020717
JC37024-4	02/07/17	10:55 AH	02/10/17	AQ Ground Water	HSSER-RAMW05-020717
JC37024-5	02/07/17	11:15 AH	02/10/17	AQ Equipment Blank	HSSER-EBLK02-020717
JC37024-6	02/07/17	12:20 AH	02/10/17	AQ Ground Water	HSSER-RAMW04-020717
JC37024-7	02/07/17	13:50 AH	02/10/17	AQ Ground Water	HSSER-RAMW03-020717
JC37024-8	02/07/17	14:55 AH	02/10/17	AQ Ground Water	HSSER-RAMW02-020717
JC37024-8D	02/07/17	14:55 AH	02/10/17	AQ Water Dup/MSD	HSSER-MSD02-020717
JC37024-8S	02/07/17	14:55 AH	02/10/17	AQ Water Matrix Spike	HSSER-MS02-020717
JC37024-9	02/07/17	00:00 AH	02/10/17	AQ Ground Water	HSSER-DUP02-020717
JC37024-10	02/08/17	08:00 AH	02/10/17	AQ Field Blank Water	HSSER-FBLK02-020817
JC37024-11	02/08/17	09:00 AH	02/10/17	AQ Ground Water	HSSER-RAMW01-020817

**Sample Summary**

(continued)

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
Project No: 60532451

Sample Number	Collected Date	Time By	Matrix Received	Code Type	Client Sample ID
JC37024-12	02/08/17	09:00 AH	02/10/17	AQ Trip Blank Water	HSSER-TRIP02-020617

## CASE NARRATIVE / CONFORMANCE SUMMARY

Client: United Technologies Corporation

Job No JC37024

Site: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Report Date 2/21/2017 4:51:58 PM

On 02/10/2017, 9 Sample(s), 1 Trip Blank(s) and 1 Field Blank(s) and 1 Equipment Blank(s) were received at SGS Accutest at a maximum corrected temperature of 4.6 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC37024 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Volatiles by GCMS By Method SW846 8260C

Matrix: AQ

Batch ID: V4B2850

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC37024-8MS, JC37024-8MSD were used as the QC samples indicated.

Matrix: AQ

Batch ID: V4B2853

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC37024-3MS, JC37024-4DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for 1,1-Dichloroethene are outside control limits for sample JC37024-4DUP. High RPD due to possible sample analyzed from different vials.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

## Summary of Hits

Page 1 of 2

Job Number: JC37024

Account: United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Collected: 02/06/17 thru 02/08/17

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
<b>JC37024-1 HSSER-RAMW08-020617</b>						
1,1-Dichloroethane		0.00026 J	0.0010	0.00021	mg/l	SW846 8260C
<b>JC37024-2 HSSER-RAMW07-020617</b>						
1,1-Dichloroethane		0.0383	0.0050	0.0010	mg/l	SW846 8260C
1,1-Dichloroethene		0.0317	0.0050	0.0010	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0683	0.0050	0.0015	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.906	0.0050	0.0011	mg/l	SW846 8260C
<b>JC37024-3 HSSER-RAMW06-020717</b>						
1,1-Dichloroethane		0.0031	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.0061	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0114	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.155	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0011	0.0010	0.00026	mg/l	SW846 8260C
<b>JC37024-4 HSSER-RAMW05-020717</b>						
1,1-Dichloroethane		0.0030	0.0010	0.00021	mg/l	SW846 8260C
1,1-Dichloroethene		0.0015	0.0010	0.00020	mg/l	SW846 8260C
cis-1,2-Dichloroethene		0.0072	0.0010	0.00031	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0702	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.0015	0.0010	0.00026	mg/l	SW846 8260C
<b>JC37024-5 HSSER-EBLK02-020717</b>						
No hits reported in this sample.						
<b>JC37024-6 HSSER-RAMW04-020717</b>						
1,1-Dichloroethane		0.00057 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene		0.00089 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.00054 J	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.00037 J	0.0010	0.00026	mg/l	SW846 8260C
<b>JC37024-7 HSSER-RAMW03-020717</b>						
1,1-Dichloroethane		0.00054 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene		0.00098 J	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane		0.0013	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene		0.00042 J	0.0010	0.00026	mg/l	SW846 8260C

**Summary of Hits**

**Job Number:** JC37024  
**Account:** United Technologies Corporation  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
**Collected:** 02/06/17 thru 02/08/17

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

**JC37024-8 HSSER-RAMW02-020717**

1,1-Dichloroethane	0.0018	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.0021	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.00027 J	0.0010	0.00026	mg/l	SW846 8260C

**JC37024-9 HSSER-DUP02-020717**

1,1-Dichloroethane	0.00058 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.0010	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.00045 J	0.0010	0.00026	mg/l	SW846 8260C

**JC37024-10 HSSER-FBLK02-020817**

No hits reported in this sample.

**JC37024-11 HSSER-RAMW01-020817**

1,1-Dichloroethane	0.00054 J	0.0010	0.00021	mg/l	SW846 8260C
Tetrachloroethene	0.0060	0.0010	0.00023	mg/l	SW846 8260C
1,1,1-Trichloroethane	0.0017	0.0010	0.00022	mg/l	SW846 8260C
Trichloroethene	0.00075 J	0.0010	0.00026	mg/l	SW846 8260C

**JC37024-12 HSSER-TRIP02-020617**

No hits reported in this sample.



ACCUTEST  
New Jersey

Section 4



### Sample Results

---

### Report of Analysis

---

SGS Accutest

**Report of Analysis**

Page 1 of 1

**Client Sample ID:** HSSER-RAMW08-020617**Lab Sample ID:** JC37024-1**Matrix:** AQ - Ground Water**Method:** SW846 8260C**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL**Date Sampled:** 02/06/17**Date Received:** 02/10/17**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69264.D	1	02/14/17	HT	n/a	n/a	V4B2850
Run #2							

**Purge Volume**

Run #1 5.0 ml

Run #2

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	0.00026	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	105%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

## Report of Analysis

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**Client Sample ID:** HSSER-RAMW07-020617  
**Lab Sample ID:** JC37024-2  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260C  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

**Date Sampled:** 02/06/17  
**Date Received:** 02/10/17  
**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69266.D	5	02/14/17	HT	n/a	n/a	V4B2850
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0383	0.0050	0.0010	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0050	0.0020	mg/l	
75-35-4	1,1-Dichloroethene	0.0317	0.0050	0.0010	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0683	0.0050	0.0015	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0050	0.0018	mg/l	
100-41-4	Ethylbenzene	ND	0.0050	0.00098	mg/l	
75-09-2	Methylene chloride	ND	0.010	0.0050	mg/l	
127-18-4	Tetrachloroethene	ND	0.0050	0.0012	mg/l	
108-88-3	Toluene	ND	0.0050	0.0011	mg/l	
71-55-6	1,1,1-Trichloroethane	0.906	0.0050	0.0011	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0050	0.0014	mg/l	
79-01-6	Trichloroethene	ND	0.0050	0.0013	mg/l	
75-01-4	Vinyl chloride	ND	0.0050	0.0016	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	102%		73-122%
2037-26-5	Toluene-D8	102%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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**Report of Analysis**

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<b>Client Sample ID:</b>	HSSER-RAMW06-020717	<b>Date Sampled:</b>	02/07/17
<b>Lab Sample ID:</b>	JC37024-3	<b>Date Received:</b>	02/10/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69317.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

	<b>Purge Volume</b>
Run #1	5.0 ml
Run #2	

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	0.0031	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.0061	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0114	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.155	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0011	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	103%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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## Report of Analysis

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<b>Client Sample ID:</b>	HSSER-RAMW05-020717	<b>Date Sampled:</b>	02/07/17
<b>Lab Sample ID:</b>	JC37024-4	<b>Date Received:</b>	02/10/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69318.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.0030	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	0.0015	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	0.0072	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0702	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.0015	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	104%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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**Report of Analysis**

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**Client Sample ID:** HSSER-EBLK02-020717**Lab Sample ID:** JC37024-5**Matrix:** AQ - Equipment Blank**Method:** SW846 8260C**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL**Date Sampled:** 02/07/17**Date Received:** 02/10/17**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69325.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

**Purge Volume**

Run #1 5.0 ml

Run #2

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	103%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

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N = Indicates presumptive evidence of a compound

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## Report of Analysis

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<b>Client Sample ID:</b>	HSSER-RAMW04-020717	<b>Date Sampled:</b>	02/07/17
<b>Lab Sample ID:</b>	JC37024-6	<b>Date Received:</b>	02/10/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69319.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	0.00057	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00089	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.00054	0.0010	0.00022	mg/l	J
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00037	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

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 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
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**Report of Analysis**

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**Client Sample ID:** HSSER-RAMW03-020717  
**Lab Sample ID:** JC37024-7  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260C  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

**Date Sampled:** 02/07/17  
**Date Received:** 02/10/17  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69320.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

	<b>Purge Volume</b>
Run #1	5.0 ml
Run #2	

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	0.00054	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.00098	0.0010	0.00023	mg/l	J
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00042	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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**Report of Analysis**

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<b>Client Sample ID:</b>	HSSER-RAMW02-020717	<b>Date Sampled:</b>	02/07/17
<b>Lab Sample ID:</b>	JC37024-8	<b>Date Received:</b>	02/10/17
<b>Matrix:</b>	AQ - Ground Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	SW846 8260C		
<b>Project:</b>	ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL		

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69263.D	1	02/14/17	HT	n/a	n/a	V4B2850
Run #2							

	<b>Purge Volume</b>
Run #1	5.0 ml
Run #2	

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	0.0018	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0021	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00027	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	105%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	102%		78-117%

ND = Not detected      MDL = Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound

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**Report of Analysis**

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**Client Sample ID:** HSSER-DUP02-020717  
**Lab Sample ID:** JC37024-9  
**Matrix:** AQ - Ground Water  
**Method:** SW846 8260C  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

**Date Sampled:** 02/07/17  
**Date Received:** 02/10/17  
**Percent Solids:** n/a

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69346.D	1	02/16/17	HT	n/a	n/a	V4B2853
Run #2							

**Purge Volume**  
Run #1 5.0 ml  
Run #2

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	0.00058	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0010	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0013	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00045	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	102%		76-120%
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%
2037-26-5	Toluene-D8	100%		84-119%
460-00-4	4-Bromofluorobenzene	104%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

## Report of Analysis

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**Client Sample ID:** HSSER-FBLK02-020817  
**Lab Sample ID:** JC37024-10  
**Matrix:** AQ - Field Blank Water  
**Method:** SW846 8260C  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

**Date Sampled:** 02/08/17  
**Date Received:** 02/10/17  
**Percent Solids:** n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69326.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
1868-53-7	Dibromofluoromethane	102%		76-120%		
17060-07-0	1,2-Dichloroethane-D4	104%		73-122%		
2037-26-5	Toluene-D8	99%		84-119%		
460-00-4	4-Bromofluorobenzene	102%		78-117%		

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

**Report of Analysis**

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4.11

4

**Client Sample ID:** HSSER-RAMW01-020817**Lab Sample ID:** JC37024-11**Date Sampled:** 02/08/17**Matrix:** AQ - Ground Water**Date Received:** 02/10/17**Method:** SW846 8260C**Percent Solids:** n/a**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	4B69347.D	1	02/16/17	HT	n/a	n/a	V4B2853
Run #2							

**Purge Volume**

Run #1 5.0 ml

Run #2

**VOA Special List**

<b>CAS No.</b>	<b>Compound</b>	<b>Result</b>	<b>RL</b>	<b>MDL</b>	<b>Units</b>	<b>Q</b>
75-34-3	1,1-Dichloroethane	0.00054	0.0010	0.00021	mg/l	J
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	0.0060	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	0.0017	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	0.00075	0.0010	0.00026	mg/l	J
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>Run# 1</b>	<b>Run# 2</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	104%		76-120%
17060-07-0	1,2-Dichloroethane-D4	109%		73-122%
2037-26-5	Toluene-D8	101%		84-119%
460-00-4	4-Bromofluorobenzene	103%		78-117%

ND = Not detected MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

SGS Accutest

## Report of Analysis

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Client Sample ID: HSSER-TRIP02-020617

Lab Sample ID: JC37024-12

Matrix: AQ - Trip Blank Water

Method: SW846 8260C

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Date Sampled: 02/08/17

Date Received: 02/10/17

Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4B69327.D	1	02/15/17	HT	n/a	n/a	V4B2853
Run #2							

## Purge Volume

Run #1 5.0 ml

Run #2

## VOA Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	0.0010	0.00021	mg/l	
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00039	mg/l	
75-35-4	1,1-Dichloroethene	ND	0.0010	0.00020	mg/l	
156-59-2	cis-1,2-Dichloroethene	ND	0.0010	0.00031	mg/l	
156-60-5	trans-1,2-Dichloroethene	ND	0.0010	0.00036	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00020	mg/l	
75-09-2	Methylene chloride	ND	0.0020	0.0010	mg/l	
127-18-4	Tetrachloroethene	ND	0.0010	0.00023	mg/l	
108-88-3	Toluene	ND	0.0010	0.00023	mg/l	
71-55-6	1,1,1-Trichloroethane	ND	0.0010	0.00022	mg/l	
79-00-5	1,1,2-Trichloroethane	ND	0.0010	0.00028	mg/l	
79-01-6	Trichloroethene	ND	0.0010	0.00026	mg/l	
75-01-4	Vinyl chloride	ND	0.0010	0.00033	mg/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
1868-53-7	Dibromofluoromethane	103%		76-120%		
17060-07-0	1,2-Dichloroethane-D4	106%		73-122%		
2037-26-5	Toluene-D8	99%		84-119%		
460-00-4	4-Bromofluorobenzene	102%		78-117%		

ND = Not detected

MDL = Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound



**ACCUTEST**  
New Jersey

## Section 5

### Misc. Forms

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5

#### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

SGS

ACCUTEST

GW  
TB

## CHAIN OF CUSTODY

SGS Accutest - Dayton  
2235 Route 130, Dayton, NJ 08810  
TEL. 732-329-0200 FAX: 732-329-3499/3480  
www.accutest.com

REVISED

PAGE 1 OF 2 A  
JC37024

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)		Matrix Codes											
Company Name <b>AECOM</b>	Project Name: <b>UTAS PLANTS 1/2 FACILITY</b>	Street	Billing Information (if different from Report to)														
Street Address <b>4320 WINFIELD RD</b>	City State Zip <b>WAINEVILLE IL 60555</b>	City State <b>ROCKFORD IL</b>	Company Name			DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge SED - Sediment OI - Oil AL - Al SOL - Other Solid WP - Wipe FB - Field Blank RB - Rinse Blank TB - Trip Blank											
Project Contact <b>PETER HOLLATZ/peter.hollatz@aecom.com</b>	E-mail	Project # <b>60532451</b>	Street Address														
Phone # <b>630.918.9648</b>	Fax #	Client Purchase Order #	City State Zip														
Sampler(s) Name(s) <b>NICK PINS / ALLAN HOLLATZ</b>	Phone #	Project Manager <b>PETER HOLLATZ</b>	Attention:														
SGS Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection														
			Date	Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	H2O2	MECH	ENCONE	VOCs	
1	HSSER-RAMW08-020617		2/6/17	1310	AH	GW	3	3									X
2	HSSER-RAMW07-020617		2/6/17	1450	AH	GW	3	3									X
3	HSSER-RAMW06-020717		2/7/17	0925	AH	GW	3	3									X
4	HSSER-RAMW05-020717		2/7/17	1055	AH	GW	3	3									X
5	HSSER-FBLK02-020717		2/7/17	1115	AH	GW	3	3									X
6	HSSER-RAMW04-020717		2/7/17	1220	AH	GW	3	3									X
7	HSSER-RAMW03-020717		2/7/17	1350	AH	GW	3	3									X
8	HSSER-RAMW02-020717		2/7/17	1455	AH	GW	3	3									X
9	HSSER-MSD02-020717		2/7/17	0000	AH	GW	3	3									X
10	HSSER-FBLK02-020817		2/8/17	0800	AH	GW	3	3									X
Turnaround Time (Business days)		Data Deliverable Information														Comments / Special Instructions	
2/12/17		Approved by (SGS Accutest PM): Date: INITIAL ASSESSMENT 1A Done														* LIST OF 13 VOCs LEVEL IV QC	
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> other		<input type="checkbox"/> Commercial "a" (Level 1) <input type="checkbox"/> Commercial "b" (Level 2) <input type="checkbox"/> FULL1 (Level 3+4) <input type="checkbox"/> NJ Reduced <input type="checkbox"/> Commercial "C" <input type="checkbox"/> NYASP Category A <input type="checkbox"/> NYASP Category B <input type="checkbox"/> State Forms <input type="checkbox"/> EDD Format <input type="checkbox"/> Other  Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data														Sample inventory is verified upon receipt in the Laboratory	
Emergency & Rush T/A data available VIA Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.															
Relinquished by Sampler: <b>1 A.L-H (AECOM)</b> 3		Date Time: 2/9/17 1400	Received By: 1 FX	Relinquished By: 2 FX	Date Time: 2/10/17 10:00	Received By: 2 H											
Relinquished by Sampler:		Date Time:	Received By:	Relinquished By:	Date Time:	Received By:											
			3	4		4											
Relinquished by Sampler:		Date Time:	Received By:	Custody Seal # 96	<input type="checkbox"/> Intact	Preserved where applicable	On Ice	Cooler Temp 3.2°C									
			5		<input type="checkbox"/> Not intact												

JC37024: Chain of Custody  
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SGS

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ACCUTEST  
JC37024



ACCUTEST

GW  
TB

## CHAIN OF CUSTODY

SGS Accutest - Dayton  
2235 Route 130, Dayton, NJ 08810  
TEL: 732-329-0200 FAX: 732-329-3499/3480  
www.accutest.com

PAGE 2 OF 2

FED-EX Tracking #	6780 9741 5239	Bottle Order Control #
SGS Accutest Quote #		SGS Accutest Job #
		JC37024

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water  
GW - Ground Water  
WW - Water  
SW - Surface Water  
SL - Soil  
SL - Sediment  
OI - Oil  
LIQ - Other Liquid  
AIR - Air  
SOL - Other Solid  
WP - Wipe  
FB - Field Blank  
RB - Rinse Blank  
TB - Trip Blank

LAB USE ONLY

Client / Reporting Information		Project Information		Requested Analysis (see TEST CODE sheet)												Matrix Codes	
Company Name <b>AECOM</b>	Project Name: <b>UTAS PLANTS 1/2 FACILITY</b>	Street Address <b>4320 WINFIELD RD</b>	Street <b>WINFIELD</b>														
City State Zip <b>WATENENVILLE IL 60555</b>	City State Zip <b>ROCKFORD IL</b>	Billing Information (If different from Report to)															
Project Contact E-mail <b>PETER HOLLATZ/peter.hollatz@aecom.com</b>	Project # <b>60532451</b>	Company Name															
Phone # <b>630.918.9648</b>	Fax #	Project Purchase Order #															
Sample(s) Name(s) <b>NICK PINS / ALAN HOLLATZ</b>	Phone #	Project Manager <b>PETER HOLLATZ</b>												Attention:			
														*			
SGS Accutest Sample #	Field ID / Point of Collection	Collection			Matrix	# of bottles	Number of preserved Bottles						VOC <sub>3</sub>	X	Y		
		Date	Time	Sampled by			HCl	NaOH	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	None	Ni/Var				MECH	ENCORE
11 13	HSEER-RAMWD1-020617	2/6/17	0900	AH	GW	3	3										
11 14	HSEER-PZ-TRIP 02-020617	2/6/17	-	-	GW	2	2										
E11/2/17																	
Turnaround Time (Business days)		Data Deliverable Information												Comments / Special Instructions			
<input checked="" type="checkbox"/> Std. 10 Business Days <input type="checkbox"/> 5 Day RUSH <input type="checkbox"/> 3 Day RUSH <input type="checkbox"/> 2 Day RUSH <input type="checkbox"/> 1 Day RUSH <input type="checkbox"/> other _____		Approved by (SGS Accutest PM): Date: _____ ☐ Commercial "a" (Level 1) ☐ NYASP Category A ☐ Commercial "b" (Level 2) ☐ NYASP Category B ☐ FULLT1 (Level 3+4) ☐ State Forms ☐ NJ Reduced ☐ EDD Format _____ ☐ Commercial "C" ☐ Other _____ ☐ NJ Data of Known Quality Protocol Reporting <small>Commercial "A" = Results Only, Commercial "B" = Results + QC Summary NJ Reduced = Results + QC Summary + Partial Raw data</small>												<b>* LIST OF 13 VOC<sub>3</sub></b> <b>LEVEL IV QC</b>			
														Sample inventory is verified upon receipt in the Laboratory			
Relinquished by Sampler: 1 <i>A.H.L</i> (AECOM)		Date Time: 2/9/17	Received By: 1	Relinquished By: 2	Date Time: 2/10/17 10:00	Received By: 2											
		Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4											
		Date Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.										
				<input type="checkbox"/> Intact	<input type="checkbox"/> Not intact												

JC37024: Chain of Custody

Page 2 of 3

# SGS Accutest Sample Receipt Summary

Job Number: JC37024 Client: \_\_\_\_\_ Project: \_\_\_\_\_  
 Date / Time Received: 2/10/2017 10:00:00 AM Delivery Method: \_\_\_\_\_ Airbill #'s: \_\_\_\_\_

Cooler Temps (Raw Measured) °C: Cooler 1: (3.2);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

**Cooler Security**      **Y or N**

- |                           |                                     |                          |                       |                                     |                          |
|---------------------------|-------------------------------------|--------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 3. COC Present:       | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Smpl Dates/Time OK | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Cooler Temperature**      **Y or N**

- |                              |                                     |                          |
|------------------------------|-------------------------------------|--------------------------|
| 1. Temp criteria achieved:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Cooler temp verification: | IR Gun                              |                          |
| 3. Cooler media:             | Ice (Bag)                           |                          |
| 4. No. Coolers:              | 1                                   |                          |

**Quality Control Preservation**      **Y or N**      **N/A**

- |                                 |                                     |                          |                          |
|---------------------------------|-------------------------------------|--------------------------|--------------------------|
| 1. Trip Blank present / cooler: | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. Trip Blank listed on COC:    | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Samples preserved properly:  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |                          |
| 4. VOCs headspace free:         | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**Sample Integrity - Documentation**

- |  |                                     |                          |
|--|-------------------------------------|--------------------------|
| 1. Sample labels present on bottles:   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Container labeling complete:        | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Sample container label / COC agree: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

**Sample Integrity - Condition**

- |                                  |                                     |                          |
|----------------------------------|-------------------------------------|--------------------------|
| 1. Sample recv'd within HT:      | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. All containers accounted for: | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Condition of sample:          | Intact                              |                          |

**Sample Integrity - Instructions**

- |   |                                     |                                     |
|---|-------------------------------------|-------------------------------------|
| 1. Analysis requested is clear:           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 2. Bottles received for unspecified tests | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 3. Sufficient volume recv'd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 4. Compositing instructions clear:        | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 5. Filtering instructions clear:          | <input type="checkbox"/>            | <input type="checkbox"/>            |

Comments

SM089-02  
Rev. Date 12/1/16

**JC37024: Chain of Custody**

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**Internal Sample Tracking Chronicle**

United Technologies Corporation

Job No: JC37024

ENSRLW: UTAS Plants 1/2 Facility, Rockford, IL  
Project No: 60532451

Sample Number	Method	Analyzed By	Prepped By	Test Codes
JC37024-1	Collected: 06-FEB-17 13:10 By: AH HSSER-RAMW08-020617		Received: 10-FEB-17 By: HY	
JC37024-1	SW846 8260C	14-FEB-17 11:59	HT	V8260SL
JC37024-2	Collected: 06-FEB-17 14:50 By: AH HSSER-RAMW07-020617		Received: 10-FEB-17 By: HY	
JC37024-2	SW846 8260C	14-FEB-17 12:55	HT	V8260SL
JC37024-3	Collected: 07-FEB-17 09:25 By: AH HSSER-RAMW06-020717		Received: 10-FEB-17 By: HY	
JC37024-3	SW846 8260C	15-FEB-17 14:25	HT	V8260SL
JC37024-4	Collected: 07-FEB-17 10:55 By: AH HSSER-RAMW05-020717		Received: 10-FEB-17 By: HY	
JC37024-4	SW846 8260C	15-FEB-17 14:53	HT	V8260SL
JC37024-5	Collected: 07-FEB-17 11:15 By: AH HSSER-EBLK02-020717		Received: 10-FEB-17 By: HY	
JC37024-5	SW846 8260C	15-FEB-17 18:15	HT	V8260SL
JC37024-6	Collected: 07-FEB-17 12:20 By: AH HSSER-RAMW04-020717		Received: 10-FEB-17 By: HY	
JC37024-6	SW846 8260C	15-FEB-17 15:24	HT	V8260SL
JC37024-7	Collected: 07-FEB-17 13:50 By: AH HSSER-RAMW03-020717		Received: 10-FEB-17 By: HY	
JC37024-7	SW846 8260C	15-FEB-17 15:52	HT	V8260SL
JC37024-8	Collected: 07-FEB-17 14:55 By: AH HSSER-RAMW02-020717		Received: 10-FEB-17 By: HY	
JC37024-8	SW846 8260C	14-FEB-17 11:28	HT	V8260SL

## Internal Sample Tracking Chronicle

United Technologies Corporation

Job No: JC37024

ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
Project No: 60532451

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
---------------	--------	----------	----	---------	----	------------

JC37024-9 Collected: 07-FEB-17 00:00 By: AH Received: 10-FEB-17 By: HY  
HSSER-DUP02-020717

JC37024-9 SW846 8260C 16-FEB-17 03:18 HT V8260SL

JC37024-10 Collected: 08-FEB-17 08:00 By: AH Received: 10-FEB-17 By: HY  
HSSER-FBLK02-020817

JC37024-10 SW846 8260C 15-FEB-17 18:43 HT V8260SL

JC37024-11 Collected: 08-FEB-17 09:00 By: AH Received: 10-FEB-17 By: HY  
HSSER-RAMW01-020817

JC37024-11 SW846 8260C 16-FEB-17 03:46 HT V8260SL

JC37024-12 Collected: 08-FEB-17 09:00 By: AH Received: 10-FEB-17 By: HY  
HSSER-TRIP02-020617

JC37024-12 SW846 8260C 15-FEB-17 19:11 HT V8260SL

# SGS Accutest Internal Chain of Custody

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**Job Number:** JC37024  
**Account:** UTC United Technologies Corporation  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
**Received:** 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37024-1.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-1.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-1.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-1.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-2.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-2.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-2.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-2.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-3.1	Secured Storage	Toan Pham	02/15/17 15:20	Retrieve from Storage
JC37024-3.1	Toan Pham	GCMS4B	02/15/17 15:20	Load on Instrument
JC37024-3.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-3.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-3.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-3.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-3.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-3.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-3.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-3.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-3.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-3.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-4.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-4.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-4.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-4.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-4.1	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-4.1	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-4.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-4.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-4.2	Secured Storage	Toan Pham	02/15/17 15:20	Retrieve from Storage
JC37024-4.2	Toan Pham	GCMS4B	02/15/17 15:20	Load on Instrument
JC37024-4.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-4.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-5.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-5.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-5.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-5.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-5.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-5.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument

# SGS Accutest Internal Chain of Custody

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**Job Number:** JC37024  
**Account:** UTC United Technologies Corporation  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
**Received:** 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37024-5.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-5.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-6.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-6.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-6.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-6.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-6.1	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-6.1	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-6.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-6.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-7.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-7.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-7.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-7.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-7.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-7.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-7.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-7.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-8.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-8.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-8.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-8.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-8.3	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-8.3	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-8.3	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-8.3	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-8.5	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-8.5	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-8.5	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-8.5	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-9.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-9.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-9.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-9.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-9.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-9.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-9.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-9.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage

## SGS Accutest Internal Chain of Custody

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**Job Number:** JC37024  
**Account:** UTC United Technologies Corporation  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL  
**Received:** 02/10/17

Sample/Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC37024-10.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-10.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-10.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-10.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-10.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-10.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-10.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-10.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-11.1	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-11.1	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-11.1	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-11.1	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-11.1	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-11.1	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-11.1	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-11.1	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage
JC37024-12.2	Secured Storage	Hueanh Tran	02/14/17 10:41	Retrieve from Storage
JC37024-12.2	Hueanh Tran	GCMS4B	02/14/17 10:41	Load on Instrument
JC37024-12.2	GCMS4B	Hueanh Tran	02/15/17 12:19	Unload from Instrument
JC37024-12.2	Hueanh Tran	Secured Storage	02/15/17 12:19	Return to Storage
JC37024-12.2	Secured Storage	Hueanh Tran	02/15/17 12:21	Retrieve from Storage
JC37024-12.2	Hueanh Tran	GCMS4B	02/15/17 12:21	Load on Instrument
JC37024-12.2	GCMS4B	Hueanh Tran	02/16/17 10:52	Unload from Instrument
JC37024-12.2	Hueanh Tran	Secured Storage	02/16/17 10:52	Return to Storage

**GC/MS Volatiles**

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**QC Data Summaries**

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

**Method Blank Summary**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2850-MB	4B69260.D	1	02/14/17	HT	n/a	n/a	V4B2850

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37024-1, JC37024-2, JC37024-8

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

**CAS No. Surrogate Recoveries Limits**

1868-53-7	Dibromofluoromethane	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	105%	73-122%
2037-26-5	Toluene-D8	101%	84-119%
460-00-4	4-Bromofluorobenzene	102%	78-117%

**Method Blank Summary**

**Job Number:** JC37024  
**Account:** UTC United Technologies Corporation  
**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2853-MB	4B69314.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-10, JC37024-12

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103%
17060-07-0	1,2-Dichloroethane-D4	104%
2037-26-5	Toluene-D8	100%
460-00-4	4-Bromofluorobenzene	104%
		76-120%
		73-122%
		84-119%
		78-117%

**Method Blank Summary**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2853-MB2	4B69335.D	1	02/15/17	HT	n/a	n/a	V4B2853

**The QC reported here applies to the following samples:****Method: SW846 8260C**

JC37024-9, JC37024-11

CAS No.	Compound	Result	RL	MDL	Units	Q
75-34-3	1,1-Dichloroethane	ND	1.0	0.21	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.39	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.31	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	2.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.23	ug/l	
108-88-3	Toluene	ND	1.0	0.23	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.22	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.28	ug/l	
79-01-6	Trichloroethene	ND	1.0	0.26	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.33	ug/l	

**CAS No. Surrogate Recoveries****Limits**

1868-53-7	Dibromofluoromethane	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	104%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

**Blank Spike Summary**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2850-BS	4B69261.D	1	02/14/17	HT	n/a	n/a	V4B2850

**The QC reported here applies to the following samples:****Method: SW846 8260C**

JC37024-1, JC37024-2, JC37024-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	51.0	102	79-124
107-06-2	1,2-Dichloroethane	50	52.0	104	81-127
75-35-4	1,1-Dichloroethene	50	52.3	105	69-136
156-59-2	cis-1,2-Dichloroethene	50	53.4	107	79-118
156-60-5	trans-1,2-Dichloroethene	50	50.5	101	73-125
100-41-4	Ethylbenzene	50	49.4	99	84-115
75-09-2	Methylene chloride	50	50.7	101	75-122
127-18-4	Tetrachloroethene	50	48.0	96	70-134
108-88-3	Toluene	50	49.4	99	84-117
71-55-6	1,1,1-Trichloroethane	50	53.2	106	83-134
79-00-5	1,1,2-Trichloroethane	50	50.4	101	84-119
79-01-6	Trichloroethene	50	53.1	106	84-120
75-01-4	Vinyl chloride	50	47.0	94	55-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	103%	73-122%
2037-26-5	Toluene-D8	100%	84-119%
460-00-4	4-Bromofluorobenzene	102%	78-117%

\* = Outside of Control Limits.

**Blank Spike Summary**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V4B2853-BS	4B69315.D	1	02/15/17	HT	n/a	n/a	V4B2853

**The QC reported here applies to the following samples:****Method: SW846 8260C**

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-9, JC37024-10, JC37024-11, JC37024-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-34-3	1,1-Dichloroethane	50	49.1	98	79-124
107-06-2	1,2-Dichloroethane	50	51.0	102	81-127
75-35-4	1,1-Dichloroethene	50	49.0	98	69-136
156-59-2	cis-1,2-Dichloroethene	50	51.2	102	79-118
156-60-5	trans-1,2-Dichloroethene	50	49.3	99	73-125
100-41-4	Ethylbenzene	50	48.1	96	84-115
75-09-2	Methylene chloride	50	50.5	101	75-122
127-18-4	Tetrachloroethene	50	48.8	98	70-134
108-88-3	Toluene	50	48.1	96	84-117
71-55-6	1,1,1-Trichloroethane	50	53.7	107	83-134
79-00-5	1,1,2-Trichloroethane	50	51.9	104	84-119
79-01-6	Trichloroethene	50	52.3	105	84-120
75-01-4	Vinyl chloride	50	44.2	88	55-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	76-120%
17060-07-0	1,2-Dichloroethane-D4	101%	73-122%
2037-26-5	Toluene-D8	99%	84-119%
460-00-4	4-Bromofluorobenzene	101%	78-117%

\* = Outside of Control Limits.

**Matrix Spike Summary**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37024-3MS	4B69322.D	1	02/15/17	HT	n/a	n/a	V4B2853
JC37024-3	4B69317.D	1	02/15/17	HT	n/a	n/a	V4B2853

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-9, JC37024-10, JC37024-11, JC37024-12

CAS No.	Compound	JC37024-3 ug/l	Spike Q	MS ug/l	MS %	Limits
75-34-3	1,1-Dichloroethane	3.1	50	47.6	89	71-131
107-06-2	1,2-Dichloroethane	ND	50	47.8	96	72-135
75-35-4	1,1-Dichloroethene	6.1	50	45.1	78	57-149
156-59-2	cis-1,2-Dichloroethene	11.4	50	58.9	95	59-134
156-60-5	trans-1,2-Dichloroethene	ND	50	44.0	88	64-134
100-41-4	Ethylbenzene	ND	50	48.0	96	48-143
75-09-2	Methylene chloride	ND	50	44.1	88	69-127
127-18-4	Tetrachloroethene	ND	50	48.3	97	55-144
108-88-3	Toluene	ND	50	46.9	94	61-136
71-55-6	1,1,1-Trichloroethane	155	50	201	92	70-147
79-00-5	1,1,2-Trichloroethane	ND	50	50.0	100	78-122
79-01-6	Trichloroethene	1.1	50	51.8	101	62-141
75-01-4	Vinyl chloride	ND	50	41.0	82	44-136

CAS No.	Surrogate Recoveries	MS	JC37024-3	Limits
1868-53-7	Dibromofluoromethane	102%	101%	76-120%
17060-07-0	1,2-Dichloroethane-D4	99%	103%	73-122%
2037-26-5	Toluene-D8	99%	101%	84-119%
460-00-4	4-Bromofluorobenzene	101%	102%	78-117%

\* = Outside of Control Limits.

**Matrix Spike/Matrix Spike Duplicate Summary**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC37024-8MS	4B69267.D	1	02/14/17	HT	n/a	n/a	V4B2850
JC37024-8MSD	4B69268.D	1	02/14/17	HT	n/a	n/a	V4B2850
JC37024-8	4B69263.D	1	02/14/17	HT	n/a	n/a	V4B2850

The QC reported here applies to the following samples:

Method: SW846 8260C

JC37024-1, JC37024-2, JC37024-8

CAS No.	Compound	JC37024-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
75-34-3	1,1-Dichloroethane	1.8		50	49.5	95	50	46.9	90	5	71-131/12
107-06-2	1,2-Dichloroethane	ND		50	46.6	93	50	44.8	90	4	72-135/11
75-35-4	1,1-Dichloroethene	ND		50	44.0	88	50	43.6	87	1	57-149/14
156-59-2	cis-1,2-Dichloroethene	ND		50	49.5	99	50	47.3	95	5	59-134/11
156-60-5	trans-1,2-Dichloroethene	ND		50	47.6	95	50	44.9	90	6	64-134/12
100-41-4	Ethylbenzene	ND		50	47.5	95	50	45.9	92	3	48-143/11
75-09-2	Methylene chloride	ND		50	45.0	90	50	44.0	88	2	69-127/12
127-18-4	Tetrachloroethene	2.1		50	48.8	93	50	47.5	91	3	55-144/12
108-88-3	Toluene	ND		50	47.4	95	50	45.3	91	5	61-136/11
71-55-6	1,1,1-Trichloroethane	1.3		50	55.5	108	50	52.9	103	5	70-147/13
79-00-5	1,1,2-Trichloroethane	ND		50	45.6	91	50	44.0	88	4	78-122/10
79-01-6	Trichloroethene	0.27	J	50	51.7	103	50	49.1	98	5	62-141/11
75-01-4	Vinyl chloride	ND		50	47.9	96	50	47.4	95	1	44-136/16

CAS No.	Surrogate Recoveries	MS	MSD	JC37024-8	Limits
1868-53-7	Dibromofluoromethane	103%	102%	102%	76-120%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	105%	73-122%
2037-26-5	Toluene-D8	101%	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	101%	101%	102%	78-117%

\* = Outside of Control Limits.

**Duplicate Summary****Job Number:** JC37024**Account:** UTC United Technologies Corporation**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

<b>Sample</b>	<b>File ID</b>	<b>DF</b>	<b>Analyzed</b>	<b>By</b>	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
JC37024-4DUP	4B69324.D	1	02/15/17	HT	n/a	n/a	V4B2853
JC37024-4	4B69318.D	1	02/15/17	HT	n/a	n/a	V4B2853

**The QC reported here applies to the following samples:****Method:** SW846 8260C

JC37024-3, JC37024-4, JC37024-5, JC37024-6, JC37024-7, JC37024-9, JC37024-10, JC37024-11, JC37024-12

<b>CAS No.</b>	<b>Compound</b>	<b>JC37024-4</b>		<b>DUP</b>	<b>Q</b>	<b>RPD</b>	<b>Limits</b>
		<b>ug/l</b>	<b>ug/l</b>				
75-34-3	1,1-Dichloroethane	3.0	2.9		3	20	
107-06-2	1,2-Dichloroethane	ND	ND		nc	20	
75-35-4	1,1-Dichloroethene	1.5	2.9		64* a	20	
156-59-2	cis-1,2-Dichloroethene	7.2	7.1		1	20	
156-60-5	trans-1,2-Dichloroethene	ND	ND		nc	20	
100-41-4	Ethylbenzene	ND	ND		nc	20	
75-09-2	Methylene chloride	ND	ND		nc	20	
127-18-4	Tetrachloroethene	ND	ND		nc	20	
108-88-3	Toluene	ND	ND		nc	20	
71-55-6	1,1,1-Trichloroethane	70.2	65.0		8	20	
79-00-5	1,1,2-Trichloroethane	ND	ND		nc	20	
79-01-6	Trichloroethene	1.5	1.5		0	20	
75-01-4	Vinyl chloride	ND	ND		nc	20	

<b>CAS No.</b>	<b>Surrogate Recoveries</b>	<b>DUP</b>	<b>JC37024-4</b>	<b>Limits</b>
1868-53-7	Dibromofluoromethane	101%	103%	76-120%
17060-07-0	1,2-Dichloroethane-D4	100%	104%	73-122%
2037-26-5	Toluene-D8	100%	101%	84-119%
460-00-4	4-Bromofluorobenzene	103%	102%	78-117%

(a) High RPD due to possible sample analyzed from different vials.

\* = Outside of Control Limits.

**Instrument Performance Check (BFB)**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-BFB

Injection Date: 01/27/17

Lab File ID: 4B68755.D

Injection Time: 11:04

Instrument ID: GCMS4B

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21258	19.0	Pass
75	30.0 - 60.0% of mass 95	50882	45.5	Pass
95	Base peak, 100% relative abundance	111944	100.0	Pass
96	5.0 - 9.0% of mass 95	7433	6.64	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) <sup>a</sup> Pass
174	50.0 - 120.0% of mass 95	113464	101.4	Pass
175	5.0 - 9.0% of mass 174	8642	7.72	(7.62) <sup>a</sup> Pass
176	95.0 - 101.0% of mass 174	110720	98.9	(97.6) <sup>a</sup> Pass
177	5.0 - 9.0% of mass 176	7242	6.47	(6.54) <sup>b</sup> Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2825-IC2825	4B68756.D	01/27/17	11:39	00:35	Initial cal 2
V4B2825-IC2825	4B68757.D	01/27/17	12:07	01:03	Initial cal 20
V4B2825-ICC2825	4B68758.D	01/27/17	12:35	01:31	Initial cal 50
V4B2825-IC2825	4B68759.D	01/27/17	13:03	01:59	Initial cal 200
V4B2825-IC2825	4B68762.D	01/27/17	14:30	03:26	Initial cal 0.2
V4B2825-IC2825	4B68763.D	01/27/17	14:58	03:54	Initial cal 0.5
V4B2825-IC2825	4B68764.D	01/27/17	15:26	04:22	Initial cal 1
V4B2825-IC2825	4B68765.D	01/27/17	15:57	04:53	Initial cal 5
V4B2825-IC2825	4B68766.D	01/27/17	16:25	05:21	Initial cal 10
V4B2825-IC2825	4B68767.D	01/27/17	16:53	05:49	Initial cal 100
V4B2825-ICV2825	4B68770.D	01/27/17	18:19	07:15	Initial cal verification 50

**Instrument Performance Check (BFB)**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2828-BFB

Injection Date: 01/30/17

Lab File ID: 4B68829.D

Injection Time: 22:20

Instrument ID: GCMS4B

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21741	20.2	Pass
75	30.0 - 60.0% of mass 95	51608	47.9	Pass
95	Base peak, 100% relative abundance	107738	100.0	Pass
96	5.0 - 9.0% of mass 95	6993	6.49	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) <sup>a</sup> Pass
174	50.0 - 120.0% of mass 95	102328	95.0	Pass
175	5.0 - 9.0% of mass 174	7984	7.41	(7.80) <sup>a</sup> Pass
176	95.0 - 101.0% of mass 174	99685	92.5	(97.4) <sup>a</sup> Pass
177	5.0 - 9.0% of mass 176	6688	6.21	(6.71) <sup>b</sup> Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2828-IC2825	4B68832.D	01/31/17	00:21	02:01	Initial cal 5
V4B2828-IC2825	4B68833.D	01/31/17	00:49	02:29	Initial cal 10
V4B2828-IC2825	4B68834.D	01/31/17	01:20	03:00	Initial cal 20
V4B2828-IC2825	4B68835.D	01/31/17	01:48	03:28	Initial cal 50
V4B2828-IC2825	4B68836.D	01/31/17	02:16	03:56	Initial cal 100
V4B2828-IC2825	4B68837.D	01/31/17	02:44	04:24	Initial cal 200
V4B2828-ICV2825	4B68840.D	01/31/17	04:10	05:50	Initial cal verification 50

**Instrument Performance Check (BFB)****Job Number:** JC37024**Account:** UTC United Technologies Corporation**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL**Sample:** V4B2850-BFB**Injection Date:** 02/14/17**Lab File ID:** 4B69257.D**Injection Time:** 08:15**Instrument ID:** GCMS4B

<b>m/e</b>	<b>Ion Abundance Criteria</b>	<b>Raw Abundance</b>	<b>% Relative Abundance</b>	<b>Pass/Fail</b>
50	14.99 - 40.0% of mass 95	20909	19.6	Pass
75	30.0 - 60.0% of mass 95	50851	47.6	Pass
95	Base peak, 100% relative abundance	106819	100.0	Pass
96	5.0 - 9.0% of mass 95	7414	6.94	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) <sup>a</sup> Pass
174	50.0 - 120.0% of mass 95	103765	97.1	Pass
175	5.0 - 9.0% of mass 174	8490	7.95	(8.18) <sup>a</sup> Pass
176	95.0 - 101.0% of mass 174	102467	95.9	(98.7) <sup>a</sup> Pass
177	5.0 - 9.0% of mass 176	6810	6.38	(6.65) <sup>b</sup> Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

<b>Lab Sample ID</b>	<b>Lab File ID</b>	<b>Date Analyzed</b>	<b>Time Analyzed</b>	<b>Hours Lapsed</b>	<b>Client Sample ID</b>
V4B2850-CC2825	4B69259.D	02/14/17	09:31	01:16	Continuing cal 20
V4B2850-MB	4B69260.D	02/14/17	10:03	01:48	Method Blank
V4B2850-BS	4B69261.D	02/14/17	10:32	02:17	Blank Spike
ZZZZZZ	4B69262.D	02/14/17	11:00	02:45	(unrelated sample)
JC37024-8	4B69263.D	02/14/17	11:28	03:13	HSSER-RAMW02-020717
JC37024-1	4B69264.D	02/14/17	11:59	03:44	HSSER-RAMW08-020617
ZZZZZZ	4B69265.D	02/14/17	12:27	04:12	(unrelated sample)
JC37024-2	4B69266.D	02/14/17	12:55	04:40	HSSER-RAMW07-020617
JC37024-8MS	4B69267.D	02/14/17	13:23	05:08	Matrix Spike
JC37024-8MSD	4B69268.D	02/14/17	13:52	05:37	Matrix Spike Duplicate
ZZZZZZ	4B69270.D	02/14/17	14:50	06:35	(unrelated sample)
ZZZZZZ	4B69271.D	02/14/17	15:18	07:03	(unrelated sample)
ZZZZZZ	4B69272.D	02/14/17	15:47	07:32	(unrelated sample)
ZZZZZZ	4B69273.D	02/14/17	16:15	08:00	(unrelated sample)
ZZZZZZ	4B69274.D	02/14/17	16:45	08:30	(unrelated sample)
V4B2851-MB	4B69277.D	02/14/17	18:10	09:55	Method Blank
ZZZZZZ	4B69278.D	02/14/17	18:39	10:24	(unrelated sample)
ZZZZZZ	4B69279.D	02/14/17	19:09	10:54	(unrelated sample)

**Instrument Performance Check (BFB)**

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2853-BFB  
 Lab File ID: 4B69309.D  
 Instrument ID: GCMS4B

Injection Date: 02/15/17  
 Injection Time: 10:32

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	14.99 - 40.0% of mass 95	21845	19.2	Pass
75	30.0 - 60.0% of mass 95	53389	46.9	Pass
95	Base peak, 100% relative abundance	113928	100.0	Pass
96	5.0 - 9.0% of mass 95	7443	6.53	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) <sup>a</sup> Pass
174	50.0 - 120.0% of mass 95	111691	98.0	Pass
175	5.0 - 9.0% of mass 174	8908	7.82	(7.98) <sup>a</sup> Pass
176	95.0 - 101.0% of mass 174	109496	96.1	(98.0) <sup>a</sup> Pass
177	5.0 - 9.0% of mass 176	7377	6.48	(6.74) <sup>b</sup> Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
V4B2853-CC2825	4B69310.D	02/15/17	11:00	00:28	Continuing cal 20
V4B2853-CC2825	4B69311.D	02/15/17	11:28	00:56	Continuing cal 20
V4B2853-CC2825	4B69312.D	02/15/17	12:02	01:30	Continuing cal 0.5
V4B2853-CC2825	4B69313.D	02/15/17	12:30	01:58	Continuing cal 1
V4B2853-MB	4B69314.D	02/15/17	13:01	02:29	Method Blank
V4B2853-BS	4B69315.D	02/15/17	13:29	02:57	Blank Spike
JC37024-3	4B69317.D	02/15/17	14:25	03:53	HSSER-RAMW06-020717
JC37024-4	4B69318.D	02/15/17	14:53	04:21	HSSER-RAMW05-020717
JC37024-6	4B69319.D	02/15/17	15:24	04:52	HSSER-RAMW04-020717
JC37024-7	4B69320.D	02/15/17	15:52	05:20	HSSER-RAMW03-020717
ZZZZZZ	4B69321.D	02/15/17	16:21	05:49	(unrelated sample)
JC37024-3MS	4B69322.D	02/15/17	16:49	06:17	Matrix Spike
JC37024-4DUP	4B69324.D	02/15/17	17:47	07:15	Duplicate
JC37024-5	4B69325.D	02/15/17	18:15	07:43	HSSER-EBLK02-020717
JC37024-10	4B69326.D	02/15/17	18:43	08:11	HSSER-FBLK02-020817
JC37024-12	4B69327.D	02/15/17	19:11	08:39	HSSER-TRIP02-020617
V4B2854-MB	4B69328.D	02/15/17	19:39	09:07	Method Blank
ZZZZZZ	4B69329.D	02/15/17	20:10	09:38	(unrelated sample)
ZZZZZZ	4B69330.D	02/15/17	20:38	10:06	(unrelated sample)

**Instrument Performance Check (BFB)****Job Number:** JC37024**Account:** UTC United Technologies Corporation**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL**Sample:** V4B2853-BFB2**Injection Date:** 02/15/17**Lab File ID:** 4B69332.D**Injection Time:** 21:06**Instrument ID:** GCMS4B

m/e	<b>Ion Abundance Criteria</b>	<b>Raw Abundance</b>	<b>% Relative Abundance</b>	<b>Pass/Fail</b>
50	14.99 - 40.0% of mass 95	21128	19.4	Pass
75	30.0 - 60.0% of mass 95	51659	47.5	Pass
95	Base peak, 100% relative abundance	108789	100.0	Pass
96	5.0 - 9.0% of mass 95	7098	6.52	Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) <sup>a</sup> Pass
174	50.0 - 120.0% of mass 95	108499	99.7	Pass
175	5.0 - 9.0% of mass 174	8196	7.53	(7.55) <sup>a</sup> Pass
176	95.0 - 101.0% of mass 174	105749	97.2	(97.5) <sup>a</sup> Pass
177	5.0 - 9.0% of mass 176	6721	6.18	(6.36) <sup>b</sup> Pass

(a) Value is % of mass 174

(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

<b>Lab Sample ID</b>	<b>Lab File ID</b>	<b>Date Analyzed</b>	<b>Time Analyzed</b>	<b>Hours Lapsed</b>	<b>Client Sample ID</b>
V4B2853-CC2825	4B69333.D	02/15/17	21:35	00:29	Continuing cal 50
V4B2853-MB2	4B69335.D	02/15/17	22:03	00:57	Method Blank
ZZZZZZ	4B69336.D	02/15/17	22:33	01:27	(unrelated sample)
ZZZZZZ	4B69337.D	02/15/17	23:01	01:55	(unrelated sample)
ZZZZZZ	4B69339.D	02/15/17	23:57	02:51	(unrelated sample)
ZZZZZZ	4B69341.D	02/16/17	00:56	03:50	(unrelated sample)
ZZZZZZ	4B69342.D	02/16/17	01:24	04:18	(unrelated sample)
ZZZZZZ	4B69343.D	02/16/17	01:52	04:46	(unrelated sample)
ZZZZZZ	4B69344.D	02/16/17	02:20	05:14	(unrelated sample)
ZZZZZZ	4B69345.D	02/16/17	02:48	05:42	(unrelated sample)
JC37024-9	4B69346.D	02/16/17	03:18	06:12	HSSER-DUP02-020717
JC37024-11	4B69347.D	02/16/17	03:46	06:40	HSSER-RAMW01-020817
ZZZZZZ	4B69348.D	02/16/17	04:15	07:09	(unrelated sample)

# Volatile Internal Standard Area Summary

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Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2850-CC2825	Injection Date:	02/14/17
Lab File ID:	4B69259.D	Injection Time:	09:31
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	114841	6.80	278708	8.84	387691	9.71	371165	12.91	215566	15.48
Upper Limit <sup>a</sup>	229682	7.30	557416	9.34	775382	10.21	742330	13.41	431132	15.98
Lower Limit <sup>b</sup>	57421	6.30	139354	8.34	193846	9.21	185583	12.41	107783	14.98

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B2850-MB	135137	6.81	297050	8.84	409174	9.71	385608	12.91	218812	15.48
V4B2850-BS	104899	6.81	279071	8.84	390421	9.71	362708	12.91	217190	15.48
ZZZZZZ	127725	6.81	307314	8.84	418074	9.71	395586	12.91	225448	15.48
JC37024-8	121965	6.81	306190	8.84	420100	9.71	394879	12.91	224199	15.48
JC37024-1	107157	6.81	295550	8.84	405249	9.71	379029	12.91	208153	15.48
ZZZZZZ	119060	6.81	298735	8.84	412073	9.71	387350	12.91	218296	15.48
JC37024-2	114356	6.81	293956	8.84	398678	9.71	379938	12.91	213743	15.48
JC37024-8MS	118522	6.81	273295	8.84	378063	9.71	354805	12.91	212344	15.48
JC37024-8MSD	121924	6.81	275465	8.84	380325	9.72	354578	12.91	214618	15.48
ZZZZZZ	128094	6.81	301515	8.84	408333	9.71	386136	12.91	218149	15.48
ZZZZZZ	120689	6.81	299602	8.84	412207	9.71	388209	12.91	219625	15.48
ZZZZZZ	113886	6.81	293405	8.84	406026	9.71	377734	12.91	210147	15.48
ZZZZZZ	113755	6.81	279224	8.84	393427	9.72	374905	12.91	209354	15.48
ZZZZZZ	99298	6.80	281422	8.84	391328	9.71	364747	12.91	193875	15.48
V4B2851-MB	135236	6.81	288378	8.84	401039	9.71	377420	12.91	212618	15.48
ZZZZZZ	133729	6.81	282270	8.84	395806	9.71	377434	12.91	212519	15.48
ZZZZZZ	130581	6.81	279876	8.84	392109	9.71	370316	12.91	206130	15.48

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2853-CC2825	Injection Date:	02/15/17
Lab File ID:	4B69310.D	Injection Time:	11:00
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	140656	6.81	302122	8.84	418432	9.71	392838	12.91	229784	15.48
Upper Limit <sup>a</sup>	281312	7.31	604244	9.34	836864	10.21	785676	13.41	459568	15.98
Lower Limit <sup>b</sup>	70328	6.31	151061	8.34	209216	9.21	196419	12.41	114892	14.98

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B2853-MB	163222	6.81	321124	8.84	435996	9.71	408085	12.91	224501	15.48
V4B2853-BS	127260	6.81	289957	8.84	403716	9.72	375878	12.91	228760	15.48
JC37024-3	152264	6.81	318906	8.84	430236	9.71	409968	12.91	230542	15.48
JC37024-4	148693	6.81	314387	8.84	426371	9.72	403726	12.91	229864	15.48
JC37024-6	145206	6.81	312078	8.84	425068	9.72	398667	12.91	222471	15.48
JC37024-7	158322	6.81	313143	8.84	426870	9.72	400068	12.91	226450	15.48
ZZZZZZ	168007	6.81	292749	8.84	405175	9.71	398659	12.91	237714	15.48
JC37024-3MS	150539	6.80	297447	8.84	409812	9.71	377405	12.91	229243	15.48
JC37024-4DUP	131349	6.81	321802	8.84	436440	9.71	407036	12.91	225920	15.48
JC37024-5	141227	6.81	320491	8.84	436295	9.71	413916	12.91	234052	15.48
JC37024-10	145086	6.81	317985	8.84	434774	9.72	405649	12.91	231889	15.48
JC37024-12	149870	6.81	314594	8.84	433507	9.71	402404	12.91	228999	15.48
V4B2854-MB	153760	6.81	315880	8.84	433956	9.71	404272	12.91	227383	15.48
ZZZZZZ	143871	6.81	299558	8.84	411642	9.72	393310	12.91	221093	15.48
ZZZZZZ	149665	6.81	301737	8.84	417977	9.71	391813	12.91	224554	15.48

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Internal Standard Area Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Check Std:	V4B2853-CC2825	Injection Date:	02/15/17
Lab File ID:	4B69333.D	Injection Time:	21:35
Instrument ID:	GCMS4B	Method:	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	126845	6.80	278579	8.84	397084	9.71	371959	12.91	226170	15.48
Upper Limit <sup>a</sup>	253690	7.30	557158	9.34	794168	10.21	743918	13.41	452340	15.98
Lower Limit <sup>b</sup>	63423	6.30	139290	8.34	198542	9.21	185980	12.41	113085	14.98

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
V4B2853-MB2	157896	6.81	314371	8.84	429481	9.71	398682	12.91	229336	15.48
ZZZZZZ	133362	6.81	303385	8.84	411872	9.71	395482	12.91	221048	15.48
ZZZZZZ	160905	6.81	299488	8.84	407295	9.71	389176	12.91	225584	15.48
ZZZZZZ	142826	6.81	306283	8.84	420842	9.71	394817	12.91	224396	15.48
ZZZZZZ	126428	6.80	292784	8.84	393666	9.72	386591	12.91	225012	15.48
ZZZZZZ	147741	6.81	316329	8.84	425864	9.71	407613	12.91	230174	15.48
ZZZZZZ	156974	6.81	317927	8.84	438236	9.71	411212	12.91	235938	15.48
ZZZZZZ	145245	6.81	313244	8.84	435325	9.71	413422	12.91	229209	15.48
ZZZZZZ	142375	6.82	313133	8.84	430763	9.71	405757	12.91	227515	15.48
JC37024-9	144189	6.81	307779	8.84	423773	9.71	396464	12.91	217205	15.48
JC37024-11	149081	6.81	301342	8.84	413837	9.71	391259	12.91	220247	15.48
ZZZZZZ	140167	6.81	294466	8.84	401879	9.71	388752	12.91	223739	15.48

IS 1 = Tert Butyl Alcohol-D9

IS 2 = Pentafluorobenzene

IS 3 = 1,4-Difluorobenzene

IS 4 = Chlorobenzene-D5

IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.

(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

6.7.3

# Volatile Surrogate Recovery Summary

Page 1 of 1

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Method: SW846 8260C

Matrix: AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC37024-1	4B69264.D	101	103	100	105
JC37024-2	4B69266.D	102	102	102	104
JC37024-3	4B69317.D	101	103	101	102
JC37024-4	4B69318.D	103	104	101	102
JC37024-5	4B69325.D	103	105	101	102
JC37024-6	4B69319.D	101	105	100	103
JC37024-7	4B69320.D	102	106	100	103
JC37024-8	4B69263.D	102	105	101	102
JC37024-9	4B69346.D	102	106	100	104
JC37024-10	4B69326.D	102	104	99	102
JC37024-11	4B69347.D	104	109	101	103
JC37024-12	4B69327.D	103	106	99	102
JC37024-3MS	4B69322.D	102	99	99	101
JC37024-4DUP	4B69324.D	101	100	100	103
JC37024-8MS	4B69267.D	103	99	101	101
JC37024-8MSD	4B69268.D	102	98	100	101
V4B2850-BS	4B69261.D	103	103	100	102
V4B2850-MB	4B69260.D	102	105	101	102
V4B2853-BS	4B69315.D	104	101	99	101
V4B2853-MB	4B69314.D	103	104	100	104
V4B2853-MB2	4B69335.D	102	104	99	101

Surrogate Compounds	Recovery Limits
------------------------	--------------------

S1 = Dibromofluoromethane	76-120%
S2 = 1,2-Dichloroethane-D4	73-122%
S3 = Toluene-D8	84-119%
S4 = 4-Bromofluorobenzene	78-117%

6.8.1  
6

## Initial Calibration Summary

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Sample: V4B2825-ICC2825  
Lab FileID: 4B68758.D

Page 1 of 6

### Response Factor Report MS4B

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)

Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um

Last Update : Tue Jan 31 16:58:58 2017

Response via : Initial Calibration

#### Calibration Files

1 =	4B68764.D	0.5	=	4B68763.D	100	=	4B68767.D	50	=	4B68758.D
20 =	4B68757.D	200	=	4B68759.D	5	=	4B68765.D	2	=	4B68756.D
10 =	4B68766.D	0.2	=	4B68762.D		=			=	

#### Compound

1	0.5	100	50	20	200	5	2	10	0.2	Avg	%RSD
---	-----	-----	----	----	-----	---	---	----	-----	-----	------

1) tert butyl alcohol-d9	-----ISTD-----									
2) tertiary butyl alcohol	1.449 1.273 1.304 1.281 1.241 1.329 1.219 1.338									
3) 1,4-dioxane	0.115 0.117 0.114 0.111 0.108									
4) Ethanol	0.114 0.113 0.114 0.113 0.113									
	0.000# -1.00									
5) I pentafluorobenzene	-----ISTD-----									
6) CHLOROTRIFLUOROETHENE	0.000# -1.00									
7) chlorodifluoromethane	0.673 0.821 0.815 0.809 0.793 0.832 0.816 0.768									
8) dichlorodifluoromethane	0.632 0.571 0.711 0.753 0.706 0.737 0.677 0.685 0.702									
9) Freon 114	0.000# -1.00									
10) chloromethane	0.332 0.315 0.350 0.349 0.349 0.327 0.384 0.386 0.352 0.288									
11) vinyl chloride	0.343 8.63 0.870 0.932 0.927 0.947 0.926 0.892 0.911 0.907									
12) bromomethane	0.423 10.42 0.414 0.415 0.436 0.417 0.336 0.454 0.492 0.421									
13) chloroethane	0.408 5.28 0.406 0.410 0.418 0.432 0.421 0.378 0.371 0.405									
14) vinyl bromide	0.433 5.07 0.537 0.518 0.586 0.603 0.595 0.559 0.573 0.580									
15) trichlorofluoromethane	0.552 5.36 0.697 0.801 0.838 0.800 0.774 0.771 0.780 0.817									
16) 1,3-butadiene	0.571 5.07 0.794 0.769 0.830 0.865 0.733 0.595 0.570 0.854									
17) Pentane	0.751 15.06 0.000# -1.00									
18) freon 123a	0.000# -1.00									
19) ethyl ether	0.282 8.20 0.233 0.288 0.300 0.305 0.274 0.280 0.278 0.302									
20) 2-chloropropane	0.191 10.22 0.218 0.167 0.196 0.206 0.161 0.182 0.198 0.200									
21) acrolein	0.113 9.79 0.126 0.135 0.103 0.111 0.112 0.099 0.111 0.113									
22) 1,1-dichloroethene	0.463 7.11 0.441 0.395 0.470 0.489 0.493 0.444 0.492 0.454									
23) acetone	0.488									

6.9.  
1

# Initial Calibration Summary

Page 2 of 6

Job Number: JC37024

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

	0.046	0.053	0.057	0.060	0.049	0.058	0.057	0.060		0.055	9.47
24)	allyl chloride										
	0.404	0.382	0.362	0.357	0.783	0.537	0.387		0.459	33.87	
	----- Quadratic regression -----								Coefficient =	0.9981	
									Response Ratio =	0.00219 + 0.42171 *A + -0.01592 *A^2	
25)	acetonitrile										
	0.037	0.034	0.030	0.031	0.032	0.027	0.034	0.030	0.034	0.032	8.31
26)	iodomethane										
	0.964	1.053	0.953	0.999	1.008	0.958	0.766	0.770	0.999	1.053	0.952
27)	carbon disulfide										
	1.326	1.516	1.559	1.667	1.669	1.528	1.156	1.211	1.570	1.467	12.94
28)	methylene chloride										
	0.507	0.517	0.515	0.534	0.544	0.493	0.522	0.512	0.541	0.521	3.17
29)	methyl acetate										
	0.080	0.081	0.081	0.076	0.078	0.063	0.085		0.078	9.13	
30)	1-chloropropane										
									0.000#	-1.00	
31)	methyl tert butyl ether										
	1.363	1.353	1.369	1.452	1.486	1.294	1.504	1.449	1.480	1.458	1.421
32)	trans-1,2-dichloroethene										
	0.431	0.467	0.460	0.483	0.491	0.435	0.490	0.459	0.487	0.459	0.466
33)	di-isopropyl ether										
	2.050	1.817	1.834	1.929	2.009	1.681	2.045	2.004	2.050	2.320	1.974
34)	2-butanone										
	0.057	0.055	0.061	0.063	0.064	0.059	0.062	0.054	0.063	0.060	6.15
35)	1,1-dichloroethane										
	0.844	0.920	0.899	0.955	0.979	0.839	0.981	0.925	1.009	1.062	0.941
36)	chloroprene										
	0.761	0.631	0.764	0.788	0.796	0.713	0.793	0.755	0.798	0.820	0.762
37)	acrylonitrile										
	0.197	0.192	0.196	0.203	0.211	0.186	0.205	0.191	0.210	0.215	0.201
38)	vinyl acetate										
	0.096	0.099	0.095	0.094	0.087	0.082	0.097		0.093	6.58	
39)	ethyl tert-butyl ether										
	1.718	1.568	1.646	1.696	1.724	1.559	1.699	1.668	1.733	1.730	1.674
40)	ethyl acetate										
	0.086	0.090	0.090	0.081	0.090	0.074	0.092		0.086	7.62	
41)	2,2-dichloropropane										
	0.457	0.486	0.424	0.485	0.508	0.386	0.477	0.455	0.500	0.491	0.467
42)	cis-1,2-dichloroethene										
	0.512	0.467	0.513	0.544	0.549	0.486	0.536	0.519	0.561	0.521	5.87
43)	methylacrylate										
	0.076	0.078	0.078	0.073	0.078	0.062	0.079		0.075	7.92	
44)	propionitrile										
	0.079	0.069	0.071	0.077	0.064	0.080	0.074	0.079		0.074	7.67
45)	bromochloromethane										
	0.243	0.226	0.271	0.282	0.284	0.263	0.270	0.253	0.283	0.231	0.260
46)	tetrahydrofuran										
	0.173	0.166	0.173	0.182	0.155	0.186	0.181	0.193		0.176	6.82
47)	chloroform										
	0.589	0.657	0.537	0.559	0.573	0.506	0.579	0.539	0.574	0.568	7.42
48)	T-BUTYL FORMATE										
	0.366	0.423	0.442	0.446	0.417	0.370	0.412	0.407		0.410	7.20
49)	dibromofluoromethane (s)										
	0.416	0.418	0.427	0.429	0.426	0.430	0.420	0.420	0.421	0.416	0.422
50)	1,2-dichloroethane-d4 (s)										
	0.467	0.460	0.445	0.452	0.458	0.442	0.465	0.461	0.472	0.452	0.457
51)	freon 113										
	0.402	0.431	0.423	0.408	0.311		0.407		0.397	10.97	

## Initial Calibration Summary

Page 3 of 6

Job Number: JC37024

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

52)	methacrylonitrile	0.388 0.375 0.353 0.365 0.361 0.335 0.398 0.365 0.378	0.369	5.08
53)	1,1,1-trichloroethane	0.650 0.640 0.676 0.708 0.698 0.654 0.631 0.595 0.685 0.656	0.659	5.11
54)	cyclohexane	0.699 0.682 0.666 0.768 0.734 0.700 0.572 0.548 0.712	0.676	10.66
55)	iso-butyl alcohol		0.000#	-1.00
56)	I 1,4-difluorobenzene	-----ISTD-----		
57)	epichlorohydrin	0.041 0.031 0.039 0.038 0.040 0.038 0.038 0.039 0.040	0.038	7.44
58)	n-butyl alcohol	0.011 0.010 0.012 0.010 0.015 0.010 0.014	0.012	17.25
59)	carbon tetrachloride	0.377 0.386 0.421 0.449 0.452 0.416 0.426 0.396 0.441 0.437	0.420	6.27
60)	1,1-dichloropropene	0.463 0.525 0.471 0.500 0.509 0.446 0.503 0.457 0.512 0.519	0.490	5.81
61)	hexane--The compound does not meet initial criteria.	0.542 0.461 0.565 0.633 0.621 0.573 0.577 0.616 0.583 0.571	0.574	8.51
62)	Tert Amyl alcohol	0.021 0.017 0.017 0.019 0.017 0.022 0.019 0.020	0.019	10.95
63)	benzene	1.369 1.441 1.347 1.418 1.439 1.273 1.451 1.383 1.462 1.732	1.432	8.41
64)	iso-octane	1.515 1.303 1.453 1.595 1.592 1.485 1.537 1.609 1.553 1.621	1.526	6.28
65)	tert-amyl methyl ether	0.228 0.212 0.222 0.229 0.235 0.213 0.245 0.227 0.240 0.179	0.223	8.34
66)	heptane	0.349 0.338 0.380 0.371 0.343 0.363 0.391 0.353	0.361	5.18
67)	isopropyl acetate	0.141 0.151 0.157 0.154 0.144 0.141 0.147 0.150	0.148	3.98
68)	1,2-dichloroethane	0.453 0.476 0.432 0.460 0.474 0.403 0.480 0.474 0.486 0.436	0.458	5.80
69)	trichloroethene	0.341 0.349 0.352 0.372 0.379 0.333 0.372 0.350 0.379 0.362	0.359	4.49
70)	Tert-amyl Ethyl Ether		0.000#	-1.00
71)	ethyl acrylate	0.446 0.509 0.468 0.477 0.477 0.446 0.479 0.430 0.473	0.467	5.00
72)	2-nitropropane	0.156 0.140 0.146 0.149 0.134 0.153 0.135 0.142	0.144	5.64
73)	2-chloroethyl vinyl ether	0.243 0.215 0.234 0.242 0.246 0.218 0.241 0.233 0.249 0.295	0.242	9.03
74)	methyl methacrylate	0.087 0.106 0.108 0.105 0.102 0.100 0.093 0.100	0.100	6.87
75)	1,2-dichloropropane	0.393 0.378 0.371 0.397 0.414 0.342 0.425 0.418 0.420 0.337	0.389	8.23
76)	dibromomethane	0.226 0.227 0.224 0.234 0.234 0.217 0.235 0.223 0.236 0.249	0.231	3.92
77)	methylcyclohexane	0.599 0.485 0.594 0.640 0.637 0.582 0.630 0.643 0.628 0.563	0.600	8.11
78)	bromodichloromethane	0.418 0.490 0.486 0.498 0.492 0.468 0.490 0.454 0.480 0.398	0.467	7.33
79)	cis-1,3-dichloropropene	0.588 0.589 0.643 0.673 0.669 0.622 0.649 0.615 0.650 0.546	0.624	6.49
80)	toluene-d8 (s)	1.156 1.150 1.150 1.155 1.153 1.161 1.153 1.159 1.153 1.158	1.155	0.31
81)	4-methyl-2-pentanone	0.163 0.176 0.143 0.152 0.162 0.133 0.167 0.158 0.163 0.172	0.159	8.36

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# Initial Calibration Summary

Page 4 of 6

Job Number: JC37024

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

82)	toluene	0.866 0.947 0.866 0.900 0.903 0.831 0.897 0.855 0.900 1.109 0.907	8.59
83)	3-methyl-1-butanol	0.018 0.016 0.015 0.015 0.017 0.014 0.017 0.017 0.018	0.016 7.96
84)	trans-1,3-dichloropropene	0.455 0.541 0.545 0.569 0.568 0.526 0.551 0.502 0.552 0.588 0.540	7.09
85)	ethyl methacrylate	0.456 0.505 0.516 0.513 0.483 0.521 0.461 0.508	0.495 5.14
86)	1,1,2-trichloroethane	0.272 0.289 0.295 0.295 0.278 0.312 0.283 0.296	0.290 4.31
87)	2-hexanone	0.166 0.151 0.159 0.169 0.142 0.176 0.169 0.174	0.163 7.13
88)	I chlorobenzene-d5	-----ISTD-----	
89)	tetrachloroethene	0.414 0.429 0.402 0.404 0.394 0.373 0.420 0.389 0.428 0.460 0.411	5.97
90)	1,3-dichloropropane	0.624 0.785 0.580 0.599 0.603 0.559 0.659 0.624 0.613 0.664 0.631	9.95
91)	butyl acetate	0.329 0.242 0.294 0.293 0.294 0.291 0.301 0.277 0.303	0.291 7.94
92)	3,3-DIMETHYL-1-BUTANOL	0.041 0.036 0.035 0.033 0.036 0.034 0.035 0.035 0.038	0.036 6.50
93)	dibromochloromethane	0.296 0.403 0.458 0.448 0.416 0.458 0.389 0.355 0.389 0.331 0.394	13.79
94)	1,2-dibromoethane	0.389 0.481 0.420 0.421 0.405 0.415 0.401 0.393 0.408 0.409 0.414	6.19
95)	n-butyl ether	1.756 2.043 1.873 1.896 1.857 1.785 1.828 1.686 1.833 2.267 1.882	8.74
96)	chlorobenzene	1.054 1.221 1.085 1.107 1.092 1.057 1.110 1.054 1.094 1.282 1.116	6.81
97)	1,1,1,2-tetrachloroethane	0.350 0.469 0.401 0.408 0.396 0.394 0.400 0.371 0.394 0.388 0.397	7.65
98)	ethylbenzene	1.794 1.929 1.767 1.824 1.824 1.681 1.882 1.803 1.835 2.262 1.860	8.39
99)	m,p-xylene	0.665 0.759 0.717 0.727 0.714 0.703 0.738 0.707 0.723 0.840 0.729	6.27
100)	o-xylene	0.666 0.766 0.749 0.760 0.737 0.731 0.741 0.705 0.736 0.706 0.730	4.09
101)	styrene	1.150 1.425 1.227 1.261 1.249 1.199 1.281 1.191 1.245 1.534 1.276	9.14
102)	bromoform	0.175 0.354 0.334 0.289 0.255 0.225 0.251	0.269 23.17
		----- Linear regression ----- Coefficient = 0.9941	
		Response Ratio = -0.00541 + 0.34174 *A	

103)	I 1,4-dichlorobenzene-d	-----ISTD-----	
104)	isopropylbenzene	3.060 3.382 3.078 3.289 3.303 2.973 3.414 3.071 3.336 3.870 3.278	7.92
105)	4-bromofluorobenzene (s)	0.828 0.817 0.799 0.809 0.815 0.819 0.832 0.822 0.822 0.824 0.819	1.16
106)	cyclohexanone	0.171 0.142 0.152 0.163 0.126 0.198 0.164 0.175	0.161 13.49
107)	bromobenzene	0.913 1.138 0.885 0.938 0.930 0.873 0.992 0.922 0.958	0.950 8.32
108)	1,1,2,2-tetrachloroethane	0.846 0.877 0.914 0.904 0.854 1.021 0.870 0.906	0.899 6.15
109)	trans-1,4-dichloro-2-butene--The compound does not meet initial criteria.	0.196 0.187 0.155 0.208 0.137 0.120 0.116	0.160 23.36
		----- Linear regression ----- Coefficient = 0.9944	

# Initial Calibration Summary

Page 5 of 6

Job Number: JC37024

Sample: V4B2825-ICC2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68758.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Response Ratio = -0.00659 + 0.20133 \*A

110)	1,2,3-trichloropropane	0.200	0.218	0.225	0.230	0.214	0.260	0.220	0.232	0.225	7.81	
111)	n-propylbenzene	3.704	3.557	3.814	3.877	3.450	4.033	3.814	3.941	3.774	5.17	
112)	4-ETHYLtoluene									0.000#	-1.00	
113)	2-chlorotoluene	0.777	0.893	0.794	0.836	0.826	0.786	0.854	0.796	0.839	0.823	4.58
114)	4-chlorotoluene	2.317	2.245	2.380	2.376	2.181	2.499	2.336	2.407	2.343	4.19	
115)	1,3,5-trimethylbenzene	2.567	2.914	2.526	2.709	2.737	2.417	2.852	2.703	2.770	2.688	5.92
116)	tert-butylbenzene	2.338	2.716	2.386	2.539	2.527	2.291	2.589	2.401	2.534	2.480	5.47
117)	pentachloroethane	0.452	0.523	0.564	0.565	0.559	0.525	0.516	0.501	0.526	7.27	
118)	1,2,4-trimethylbenzene	2.564	2.608	2.819	2.852	2.467	2.941	2.751	2.877	2.735	6.20	
119)	sec-butylbenzene	3.473	3.585	3.852	3.835	3.427	3.852	3.577	3.842	3.680	4.99	
120)	1,3-dichlorobenzene	1.829	1.663	1.781	1.798	1.601	1.905	1.789	1.842	1.776	5.55	
121)	p-isopropyltoluene	2.947	3.143	3.379	3.396	2.961	3.370	3.066	3.351	3.201	6.07	
122)	1,4-dichlorobenzene	1.733	1.666	1.771	1.761	1.616	1.821	1.714	1.757	1.730	3.73	
123)	benzyl chloride	1.411	1.356	1.623	1.747	1.688	1.642	1.428	1.408	1.472	1.530	9.42
124)	1,2-dichlorobenzene	1.723	1.625	1.759	1.802	1.540	1.833	1.743	1.763	1.724	5.58	
125)	1,4-DIETHYLBENZENE									0.000#	-1.00	
126)	n-butylbenzene	1.557	1.777	1.662	1.819	1.809	1.557	1.712	1.601	1.762	1.695	6.18
127)	1,2,4,5-TETRAMETHYLBENZENE									0.000#	-1.00	
128)	1,2-dibromo-3-chloropropane	0.160	0.165	0.156	0.157	0.155	0.126	0.155	0.153	0.153	8.14	
129)	1,3,5-TRICHLOROBENZENE	1.396	1.482	1.616	1.664	1.396	1.577	1.462	1.593	1.523	6.75	
130)	1,2,4-trichlorobenzene	1.227	1.358	1.463	1.478	1.298	1.379	1.226	1.415	1.356	7.22	
131)	hexachlorobutadiene	0.763	0.908	0.724	0.799	0.835	0.695	0.831	0.771	0.831	0.795	8.17
132)	naphthalene	2.358	2.431	2.576	2.568	2.342	2.557	2.255	2.525	2.451	5.00	
133)	1,2,3-trichlorobenzene	1.109	1.190	1.260	1.264	1.149	1.233	1.112	1.230	1.193	5.31	
134)	hexachloroethane	0.642	0.664	0.617	0.638	0.534	0.536	0.560	0.599	0.599	9.08	
135)	2-ethylhexyl acrylate--The compound does not meet initial criteria.	0.350	0.306	0.233	0.407	0.167	0.187	0.192	0.263	35.08		
	----- Linear regression ----- Coefficient = 0.9943											
	Response Ratio = -0.01085 + 0.40945 *A											
136)	2-methylnaphthalene--The compound does not meet initial criteria.	0.650	0.658	0.578	0.674	0.468	0.531	0.593	13.86			

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## Initial Calibration Summary

Job Number: JC37024  
Account: UTC United Technologies Corporation  
Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

Page 6 of 6

Sample: V4B2825-ICC2825  
Lab FileID: 4B68758.D

137) I pentafluorobenzene(a) -----ISTD-----

138) Freon 142B

0.473 0.459 0.567 0.539 0.210 0.376 0.437 29.69

----- Linear regression ----- Coefficient = 0.9931

Response Ratio = -0.02771 + 0.52631 \*A

(#) = Out of Range ### Number of calibration levels exceeded format ###

M4B2825.M Tue Jan 31 17:17:16 2017 GCMS4B

6.9.1

6

**Initial Calibration Verification**

Page 1 of 4

**Job Number:** JC37024**Sample:** V4B2825-ICV2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68770.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

## Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\4B68770.D Vial: 17  
 Acq On : 27 Jan 2017 6:19 pm Operator: Hueanht  
 Sample : icv2825-50 Inst : MS4B  
 Misc : MS11826,V4B2825,W,,,1 Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)  
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um  
 Last Update : Tue Jan 31 16:58:58 2017  
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	93	0.00	6.81
2 M	tertiary butyl alcohol	250.00	1.304	1.375	-5.4	98	0.00	6.91
3 M	1,4-dioxane	1250.00	0.113	0.119	-5.3	95	0.00	10.34
4	Ethanol		-----NA-----					
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	98	0.00	8.84
6	CHLOROTRIFLUOROETHENE		-----NA-----					
7 M	chlorodifluoromethane	50.00	0.791	0.726	8.2	88	-0.01	3.85
8 M	dichlorodifluoromethane	50.00	0.686	0.734	-7.0	96	-0.01	3.82
9	Freon 114		-----NA-----					
10 M	chloromethane	50.00	0.343	0.385	-12.2	109	0.01	4.18
11 M	vinyl chloride	50.00	0.914	0.936	-2.4	97	0.00	4.40
12 M	bromomethane	50.00	0.423	0.434	-2.6	98	0.00	4.98
13 M	chloroethane	50.00	0.408	0.395	3.2	90	0.01	5.16
14	vinyl bromide	50.00	0.571	0.582	-1.9	95	0.00	5.45
15 M	trichlorofluoromethane	50.00	0.785	0.818	-4.2	96	-0.02	5.51
16	1,3-butadiene	50.00	0.751	0.669	10.9	79	0.00	4.47
17	Pentane		-----NA-----					
18	freon 123a		-----NA-----					
19 M	ethyl ether	50.00	0.282	0.291	-3.2	96	0.00	5.88
20	2-chloropropane	50.00	0.191	0.157	17.8	79	0.00	6.08
21 M	acrolein	500.00	0.113	0.102	9.7	91	0.00	6.09
22 M	1,1-dichloroethene	50.00	0.463	0.503	-8.6	101	0.00	6.25
23 M	acetone	250.00	0.055	0.055	0.0	95	0.00	6.26
		-----TrueValue	CC-RF	Calc.	% Drift	-----	R.T.	
24 M	allyl chloride	50.00	0.146	92.583	-85.2#	187	0.00	6.71
		-----TrueValue	AvgRF	CCRF	% Dev	-----	R.T.	
25 M	acetonitrile	500.00	0.032	0.029	9.4	90	0.00	6.63
26 M	iodomethane	50.00	0.952	0.808	15.1	80	-0.03	6.48
27 M	carbon disulfide	50.00	1.467	1.242	15.3	73	0.00	6.61
28 M	methylene chloride	50.00	0.521	0.516	1.0	95	0.00	6.87
29 M	methyl acetate	50.00	0.078	0.079	-1.3	96	0.00	6.65
30	1-chloropropane		-----NA-----					
31 M	methyl tert butyl ether	50.00	1.421	1.381	2.8	94	0.00	7.18
32 M	trans-1,2-dichloroethene	50.00	0.466	0.462	0.9	94	0.00	7.22
33 M	di-isopropyl ether	50.00	1.974	1.936	1.9	99	0.00	7.70
34 M	2-butanone	250.00	0.060	0.059	1.7	93	0.00	8.31
35 M	1,1-dichloroethane	50.00	0.941	0.941	0.0	97	0.00	7.73
36 M	chloroprene	50.00	0.762	0.782	-2.6	98	0.00	7.82
37 M	acrylonitrile	250.00	0.201	0.197	2.0	96	0.00	7.13

69.2 G

# Initial Calibration Verification

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Job Number: JC37024

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

38 M	vinyl acetate	50.00	0.093	0.092	1.1	92	0.00	7.66
39 M	ethyl tert-butyl ether	50.00	1.674	1.712	-2.3	99	0.00	8.11
40 M	ethyl acetate	50.00	0.086	0.094	-9.3	102	0.00	8.31
41 M	2,2-dichloropropane	50.00	0.467	0.432	7.5	88	0.00	8.39
42 M	cis-1,2-dichloroethene	50.00	0.521	0.529	-1.5	96	0.00	8.37
43	methylacrylate	50.00	0.075	0.076	-1.3	96	0.00	8.39
44 M	propionitrile	500.00	0.074	0.069	6.8	96	0.00	8.39
45 M	bromochloromethane	50.00	0.260	0.279	-7.3	97	0.00	8.65
46 M	tetrahydrofuran	50.00	0.176	0.166	5.7	94	0.00	8.66
47 M	chloroform	50.00	0.568	0.549	3.3	97	0.00	8.71
48 M	T-BUTYL FORMATE	50.00	0.410	0.297	27.6	66	0.00	8.75
49 S	dibromofluoromethane (s)	50.00	0.422	0.424	-0.5	97	0.00	8.89
50 S	1,2-dichloroethane-d4 (s)	50.00	0.457	0.446	2.4	97	0.00	9.29
51 M	freon 113	50.00	0.397	0.469	-18.1	107	0.00	6.26
52 M	methacrylonitrile	50.00	0.369	0.346	6.2	93	0.00	8.56
53 M	1,1,1-trichloroethane	50.00	0.659	0.644	2.3	90	0.00	8.95
54 M	cyclohexane	50.00	0.676	0.575	14.9	74	0.00	9.05
55	iso-butyl alcohol				-----NA-----			
56 I	1,4-difluorobenzene	50.00	1.000	1.000	0.0	97	0.00	9.72
57 M	epichlorohydrin	250.00	0.038	0.036	5.3	93	0.00	10.87
58 M	n-butyl alcohol	2500.00	0.012	0.010#	16.7	92	0.00	9.75
59 M	carbon tetrachloride	50.00	0.420	0.417	0.7	90	0.00	9.14
60 M	1,1-dichloropropene	50.00	0.490	0.496	-1.2	96	0.00	9.11
61 M	hexane	50.00	0.574	0.281	51.0#	43#	0.00	7.52
62	Tert Amyl alcohol	250.00	0.019	0.032	-68.4#	184	0.00	9.21
63 M	benzene	50.00	1.432	1.404	2.0	96	0.00	9.35
64 m	iso-octane	50.00	1.526	1.409	7.7	86	0.00	9.42
65 M	tert-amyl methyl ether	50.00	0.223	0.237	-6.3	100	0.00	9.40
66 M	heptane	50.00	0.361	0.362	-0.3	93	0.00	9.56
67 M	isopropyl acetate	50.00	0.148	0.153	-3.4	95	0.00	9.24
68 M	1,2-dichloroethane	50.00	0.458	0.448	2.2	95	0.00	9.37
69 M	trichloroethene	50.00	0.359	0.372	-3.6	97	0.00	10.02
70	Tert-amyl Ethyl Ether				-----NA-----			
71	ethyl acrylate	50.00	0.467	0.461	1.3	94	0.00	9.99
72 M	2-nitropropane	50.00	0.144	0.141	2.1	94	0.00	10.75
73 M	2-chloroethyl vinyl ether	250.00	0.242	0.251	-3.7	101	0.00	10.77
74 M	methyl methacrylate	50.00	0.100	0.099	1.0	89	0.00	10.24
75 M	1,2-dichloropropane	50.00	0.389	0.389	0.0	95	0.00	10.30
76 M	dibromomethane	50.00	0.231	0.230	0.4	95	0.00	10.41
77 M	methylcyclohexane	50.00	0.600	0.602	-0.3	91	0.00	10.30
78 M	bromodichloromethane	50.00	0.467	0.496	-6.2	97	0.00	10.55
79 M	cis-1,3-dichloropropene	50.00	0.624	0.660	-5.8	95	0.00	11.00
80 S	toluene-d8 (s)	50.00	1.155	1.153	0.2	97	0.00	11.31
81 M	4-methyl-2-pentanone	250.00	0.159	0.147	7.5	94	0.00	11.09
82 M	toluene	50.00	0.907	0.895	1.3	97	0.00	11.39
83 M	3-methyl-1-butanol	1000.00	0.016	0.014	12.5	89	0.00	11.08
84 M	trans-1,3-dichloropropene	50.00	0.540	0.559	-3.5	95	0.00	11.57
85 M	ethyl methacrylate	50.00	0.495	0.498	-0.6	94	0.00	11.55
86 M	1,1,2-trichloroethane	50.00	0.290	0.295	-1.7	97	0.00	11.81
87 M	2-hexanone	250.00	0.163	0.151	7.4	92	0.00	11.97
88 I	chlorobenzene-d5	50.00	1.000	1.000	0.0	97	0.00	12.91
89 M	tetrachloroethene	50.00	0.411	0.446	-8.5	107	0.00	11.96
90 M	1,3-dichloropropane	50.00	0.631	0.588	6.8	95	0.00	12.00
91 M	butyl acetate	50.00	0.291	0.287	1.4	95	0.00	12.05
92 M	3,3-DIMETHYL-1-BUTANOL	500.00	0.036	0.029	19.4	85	0.00	12.16
93 M	dibromochloromethane	50.00	0.394	0.443	-12.4	96	0.00	12.27
94 M	1,2-dibromoethane	50.00	0.414	0.412	0.5	95	0.00	12.43
95	n-butyl ether	50.00	1.882	1.888	-0.3	97	0.00	12.88

**Initial Calibration Verification**

Job Number: JC37024

Sample: V4B2825-ICV2825

Account: UTC United Technologies Corporation

Lab FileID: 4B68770.D

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

96 M	chlorobenzene	50.00	1.116	1.100	1.4	97	0.00	12.94
97 M	1,1,1,2-tetrachloroethane	50.00	0.397	0.403	-1.5	96	0.00	13.01
98 M	ethylbenzene	50.00	1.860	1.815	2.4	97	0.00	13.00
99 M	m,p-xylene	100.00	0.729	0.722	1.0	97	0.00	13.13
100 M	o-xylene	50.00	0.730	0.747	-2.3	96	0.00	13.57
101 M	styrene	50.00	1.276	1.240	2.8	96	0.00	13.59

		-----TrueValue	CC-RF	Calc.	% Drift	-----	R.T.	
102 M	bromoform	50.00	0.322	47.916	4.2	94	0.00	13.84

		-----TrueValue	AvgRF	CCRF	% Dev	-----	R.T.	
103 I	1,4-dichlorobenzene-d4	50.00	1.000	1.000	0.0	96	0.00	15.48
104 M	isopropylbenzene	50.00	3.278	3.262	0.5	95	0.00	13.95
105 S	4-bromofluorobenzene (s)	50.00	0.819	0.817	0.2	97	0.00	14.18
106	cyclohexanone	500.00	0.161	0.150	6.8	94	0.00	14.11
107 M	bromobenzene	50.00	0.950	0.933	1.8	95	0.00	14.39
108 M	1,1,2,2-tetrachloroethane	50.00	0.899	0.878	2.3	92	0.00	14.27

		-----TrueValue	CC-RF	Calc.	% Drift	-----	R.T.	
109 M	trans-1,4-dichloro-2-bute	50.00	0.193	49.529	0.9	99	0.00	14.30

		-----TrueValue	AvgRF	CCRF	% Dev	-----	R.T.	
110 M	1,2,3-trichloropropane	50.00	0.225	0.220	2.2	94	0.00	14.37
111 M	n-propylbenzene	50.00	3.774	3.758	0.4	94	0.00	14.41
112	4-ETHYLtoluene			-----NA-----				
113 M	2-chlorotoluene	50.00	0.823	0.830	-0.9	95	0.00	14.57
114 M	4-chlorotoluene	50.00	2.343	2.353	-0.4	95	0.00	14.69
115 M	1,3,5-trimethylbenzene	50.00	2.688	2.667	0.8	94	0.00	14.59
116 M	tert-butylbenzene	50.00	2.480	2.514	-1.4	95	0.00	14.97
117 M	pentachloroethane	50.00	0.526	0.474	9.9	81	0.00	15.05
118 M	1,2,4-trimethylbenzene	50.00	2.735	2.761	-1.0	94	0.00	15.03
119 M	sec-butylbenzene	50.00	3.680	3.802	-3.3	95	0.00	15.21
120 M	1,3-dichlorobenzene	50.00	1.776	1.758	1.0	95	0.00	15.40
121 M	p-isopropyltoluene	50.00	3.201	3.308	-3.3	94	0.00	15.36
122 M	1,4-dichlorobenzene	50.00	1.730	1.737	-0.4	94	0.00	15.51
123	benzyl chloride	50.00	1.530	1.102	28.0	60	0.00	15.61
124 M	1,2-dichlorobenzene	50.00	1.724	1.745	-1.2	95	0.00	15.93
125	1,4-DIETHYLBENZENE			-----NA-----				
126 M	n-butylbenzene	50.00	1.695	1.760	-3.8	93	0.00	15.82
127	1,2,4,5-TETRAMETHYLBENZEN			-----NA-----				
128 M	1,2-dibromo-3-chloropropane	50.00	0.153	0.162	-5.9	94	0.00	16.77
129	1,3,5-TRICHLOROBENZENE	50.00	1.523	1.587	-4.2	94	0.00	16.97
130 M	1,2,4-trichlorobenzene	50.00	1.356	1.419	-4.6	93	0.00	17.66
131 M	hexachlorobutadiene	50.00	0.795	0.773	2.8	93	0.00	17.77
132 M	naphthalene	50.00	2.451	2.459	-0.3	92	0.00	17.97
133 M	1,2,3-trichlorobenzene	50.00	1.193	1.226	-2.8	93	0.00	18.21
134 m	hexachloroethane	50.00	0.599	0.650	-8.5	94	0.00	16.25

		-----TrueValue	CC-RF	Calc.	% Drift	-----	R.T.	
135	2-ethylhexyl acrylate	10.00	0.055	8.028	19.7	86	0.00	17.66
136	2-methylnaphthalene			-----NA-----				

		-----TrueValue	AvgRF	CCRF	% Dev	-----	R.T.	
137 I	pentafluorobenzene(a)	50.00	1.000	1.000	0.0	102	0.00	8.84
138	Freon 142B			-----NA-----				

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## Initial Calibration Verification

Job Number: JC37024

Account: UTC United Technologies Corporation

Project: ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

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Sample: V4B2825-ICV2825

Lab FileID: 4B68770.D

(#) = Out of Range

4B68758.D M4B2825.M

SPCC's out = 0 CCC's out = 0

Tue Jan 31 17:15:31 2017 GCMS4B

6.9.2

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**Initial Calibration Verification**

Page 1 of 3

**Job Number:** JC37024**Sample:** V4B2828-ICV2825**Account:** UTC United Technologies Corporation**Lab FileID:** 4B68840.D**Project:** ENSRILW: UTAS Plants 1/2 Facility, Rockford, IL

## Evaluate Continuing Calibration Report

Data File : C:\MSDChem\1\DATA\4B68840.D                          Vial: 12  
 Acq On : 31 Jan 2017 4:10 am                          Operator: Hueanht  
 Sample : icv2825-50                          Inst : MS4B  
 Misc : MS12037,V4B2828,W,,,1                          Multiplr: 1.00  
 MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\M4B2825.M (RTE Integrator)  
 Title : Method SW846 V8260C, ZB624 60mx0.25mmx1.4um  
 Last Update : Tue Jan 31 16:58:58 2017  
 Response via : Multiple Level Calibration

Min. RRF : 0.010 Min. Rel. Area : 50% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	TrueValue	AvgRF	CCRF	%Dev	Area%	Dev(min)R.T.
1	tert butyl alcohol-d9	500.00	1.000	1.000	0.0	114	0.00
2 M	tertiary butyl alcohol		-----	NA-----			
3 M	1,4-dioxane		-----	NA-----			
4	Ethanol		-----	NA-----			
5 I	pentafluorobenzene	50.00	1.000	1.000	0.0	92	0.00
6	CHLOROTRIFLUOROETHENE		-----	NA-----			
7 M	chlorodifluoromethane		-----	NA-----			
8 M	dichlorodifluoromethane		-----	NA-----			
9	Freon 114		-----	NA-----			
10 M	chloromethane		-----	NA-----			
11 M	vinyl chloride		-----	NA-----			
12 M	bromomethane		-----	NA-----			
13 M	chloroethane		-----	NA-----			
14	vinyl bromide		-----	NA-----			
15 M	trichlorofluoromethane		-----	NA-----			
16	1,3-butadiene		-----	NA-----			
17	Pentane		-----	NA-----			
18	freon 123a		-----	NA-----			
19 M	ethyl ether		-----	NA-----			
20	2-chloropropane		-----	NA-----			
21 M	acrolein		-----	NA-----			
22 M	1,1-dichloroethene		-----	NA-----			
23 M	acetone		-----	NA-----			
24 M	allyl chloride		-----	NA-----			
25 M	acetonitrile		-----	NA-----			
26 M	iodomethane		-----	NA-----			
27 M	carbon disulfide		-----	NA-----			
28 M	methylene chloride		-----	NA-----			
29 M	methyl acetate		-----	NA-----			
30	1-chloropropane		-----	NA-----			
31 M	methyl tert butyl ether		-----	NA-----			
32 M	trans-1,2-dichloroethene		-----	NA-----			
33 M	di-isopropyl ether		-----	NA-----			
34 M	2-butanone		-----	NA-----			
35 M	1,1-dichloroethane		-----	NA-----			
36 M	chloroprene		-----	NA-----			
37 M	acrylonitrile		-----	NA-----			
38 M	vinyl acetate		-----	NA-----			
39 M	ethyl tert-butyl ether		-----	NA-----			
40 M	ethyl acetate		-----	NA-----			
41 M	2,2-dichloropropane		-----	NA-----			

6.93

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